

IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF OKLAHOMA

TK-7 CORPORATION, TAL : TECHNOLOGIES, AND MOSHE TAL :

C.A. NO. CIV-89-1264-P

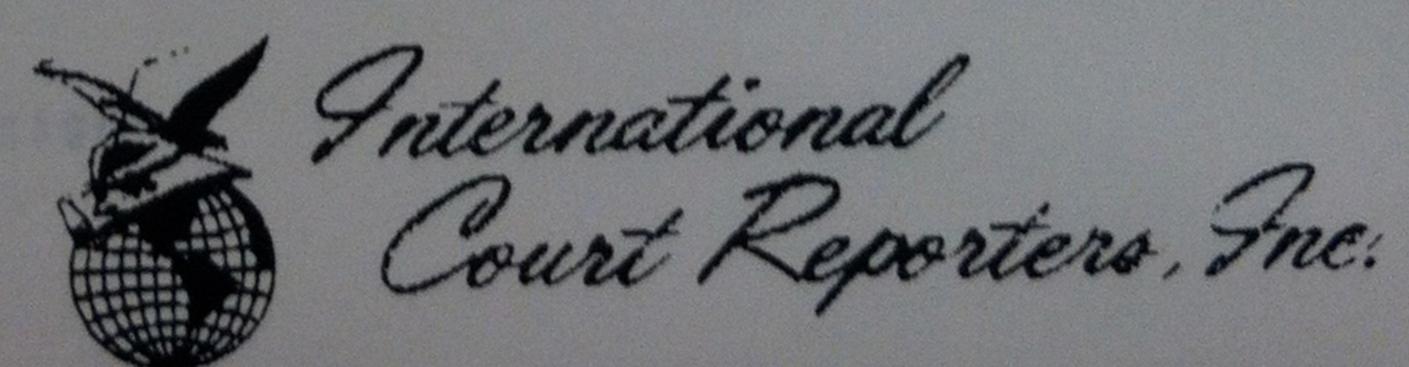
IHSAN BARBOUTI, HAIDAR BARBOUTI, IBI, INC., A NEW YORK CORPORATION, IBI HOLDING, INCORPORATED, A DELAWARE CORPORATION AND 1600 PACIFIC AVE. CORP., : A DELAWARE CORPORATION

DEPOSITION OF:

ARTHUR J. VALENTZ

AUGUST 24, 1989

VOLUME I



3535 Louisiana . Houston, Texas 77002 . (713) 652-5911

· Net the tenton connected

	O' INN MW' MONMONS) DIG DO SASE SETT ACC SUSE
2	He Manted to 468Hits 12-1 on pepalt of Fiblas
3	A, No.
	0, Or his apquisition of TE-7 in some regard had
5	anything to do with Librar
6	A. Repeat that.
7	0. Okay, During the spring of 1987 when he was
	meeting with Meahe Tal in Oklahoms, had Dr. Barbouti
	maid anything to you or to Mr. Tal in your presence
9	about wanting to acquire TX-7 for any reason connected
10	
77	with the nation Libya? A. I got the impression that he had some oil
12	A, 1 90% the impression that the
13	concessions coming from Libys, and so I assumed that the
14	two were intertwined somehow.
15	O. Okay, You didn't have any specifics at that
16	point how TK-7 tied to Libys, though?
17	was ald Mr. Tal. to your knowledge?
7.6	
19	N. No. Now, you mentioned while ago that there was a
20	0' Non' hon weutrouse surre Can Aon
21	second meeting with Dr. Barbouti and Moshe Tal. Can you
	when and where that occurred?
22	A. Whis was probably the last meeting I had with
23	Noohe was
24	
-	o. All right.

IN THE UNITED STATES DISTRICT COURT POR THE WESTERN DISTRICT OF OKLAHOMA

TK-7 CORPORATION, TAL : TECHNOLOGIES, AND MOSHE TAL :

VS

C.A. NO. CIV-89-1264-P

LENGTH BE SELECTED BEING SELECTED

IHSAN BARBOUTI, HAIDAR
BARBOUTI, IBI, INC., A
NEW YORK CORPORATION, IBI
HOLDING, INCORPORATED, A
DELAWARE CORPORATION AND
1600 PACIFIC AVE. CORP.,
A DELAWARE CORPORATION

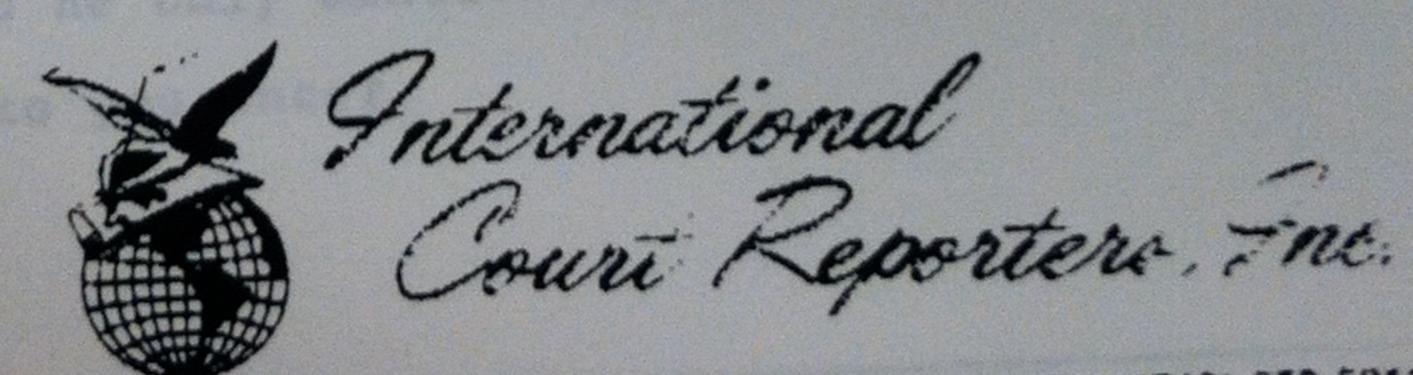
DEPOSITION OF:

ARTHUR J. VALENTZ

AUGUST 25, 1989

VOLUME II

COPY

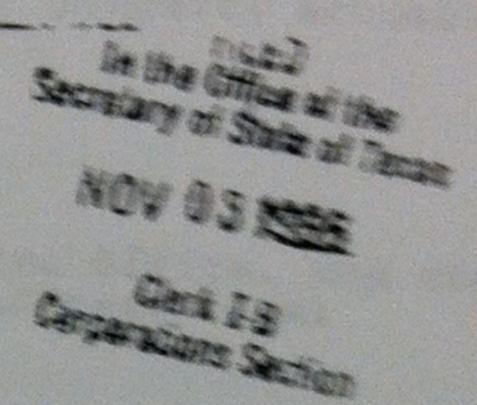


3535 Louisiana . Houston, Texas 77002 . (713) 652-5911

Libya, as to what he had and what he wanted done. Q. All right. 2 Q. I didn't mean to suggest you talked to him daily about it. When was the next time? A. He was very impatient about finding and buying 5 an oil company here in the United States. He gave me 6 perimeters to work under. He said there was a certain 8 dollar amount he would spend and that was it. He wanted 9 no more or very minimal staff. He would staff it himself, and got very impatient when I didn't come up 10 with the type of things he wanted. So he set other 11 people in motion unbeknownst to me to help him do that. 12 What was the connection between him wanting you 13 to find this oil company and Libya or Gaddafi? 14 A. I was under the impression that -- these are 15 his words. He said that he could somehow mix the two 16 oils -- you know, whether it be oil from this oil 17 company or wherever and help that oil lose its identity, 18 the concessions he had from Libya. 19 Q. All right. It's in that connection that he 20 told you about some 200,000-barrel concession for Libya? 21 A. Yes, very impatient with me because I couldn't 22 seem to come up with the right thing. 23 Did he only mention that 200,000-barrel 24 concession to you once? 25

ARTICLES OF INCORPORATION

OF



COMDWANA GEOCONSULTANTS INTERNATIONAL, INC.

ARTICLE ONE

The name of the Corporation is GONDWANA SECCONSULTANTS INTERNATIONAL, INC.

ARTICLE TWO

The period of its duration is perpetual.

ARTICLE THREE

The purpose for which the Corporation is organized is the transaction of any and all lawful business for which a corporation tion may be incorporated under the Texas Business Corporation Acc.

ARTICLE FOUR

The aggregate number of shares which the Corporation shall have authority to issue is One Hundred Thousand (100.000). The shares shall have a par value of One Dollar.

ARTICLES OF INCORPORATION
GONDWANA GEOCONSULTANTS INTERNATIONAL, INC., PAGE 1

ARTICLE FIVE

The Corporation will not commence business until it has received consideration equal to or exceeding the value of \$1,000.00, consisting of money, labor done, or property actually received, for the issuance of its shares.

ARTICLE SIX

The street address of its initial Registered Office, and the name of its initial Registered Agent at this address is as follows:

Harrell Gordon Tillman 2425 West Loop South, Suite 700 Houston, Texas 77027

ARTICLE SEVEN

The number of initial Directors is three (3). The names and addresses of the initial Directors are:

Harrell Gordon Tillman 2425 West Loop South, Suite 700 Houston, Texas 77027

M. Esam Ibrahim 2425 West Loop South. Suite 700 Houston, Texas 77027

Abdul Hamid Gamal 2425 West Loop South, Suite 700 Houston, Texas 77027

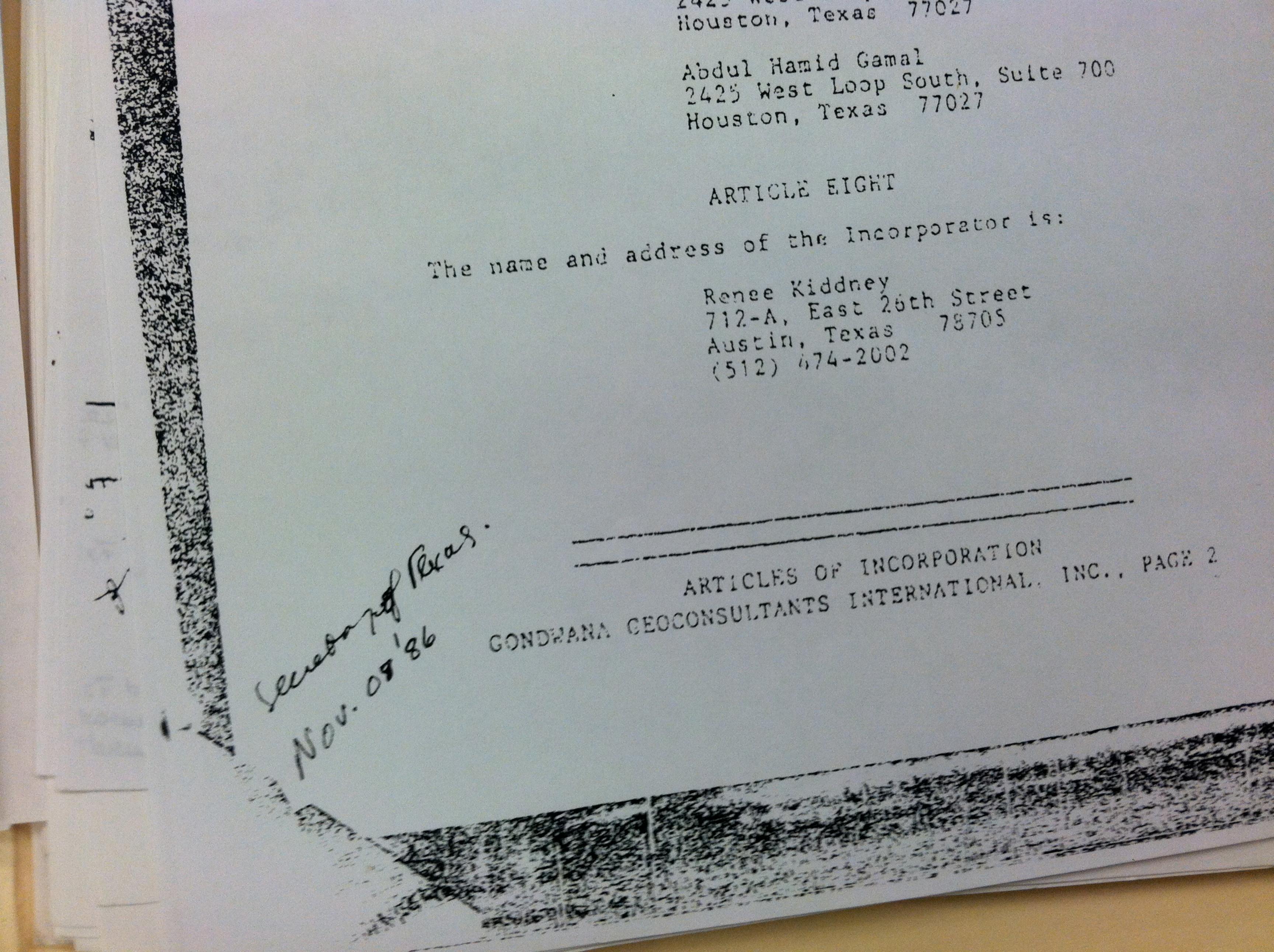
ARTICLE EIGHT

The name and address of the Incorporator is:

Rense Kiddney 712-A, East 26th Street Austin, Texas 78705 (512) 474-2002

go 14 (exa GONE

ARTICLES OF INCORPORATION
GONDWANN GEOCONSULTANTS INTERNATIONAL. INC., PAGE 2



290 East Austin Giddings, Texas 78942

ARTICLE XII.

The name and address of the incorporator of the Corporation Is as follows:

Lance H. Farrell 28th Floor, 1100 Milam Street Houston, Texas 77002

IN WITNESS WHEREOF, the undersigned, being the incorporator designated in Article XII, executes these Articles of Incorporation and certifies to the truth of the facts stated therein this lith day of July, 1980.

THE STATE OF TEXAS

COUNTY OF HARRIS

I, Rinda Myers, a notary public, do hereby certify that on this lith day of July, 1980, personally appeared before me. LANCE H. FARRELL, who being by me first duly sworn, declared that he is the person who signed the foregoing document as incorporator, and that the statements therein contained are true.

SUBSCRIBED AND SMORN TO before me, this lith day of July, 1980.

> NOTARY PUBLIC INLAND FOR HARRIS COUNTY, TEXAS

An. UA TERS Notary Public in Harns County, Texas My Commission Expires November 20, 1961

troker or advisor for other persons, associations, corporations, partnerships and firms;

To enter into partnerships or into any arrangement for sharing of profits, union of interests, cooperation, joint verture, reciprocal concession or otherwise, with in or about to carry on or engage in any business or transaction which the Corporation is authorized to carry on or engage in any business or carry on or engage in any business or

territory, district or possession of the United States, or in any foreign country to the extent that such purposes are not forbidden by law of such state, territory, district or possession of the United States or by such foreign country; and

In general, to carry on any other business and do any other acts in connection with the foregoing and to have and exercise all powers conferred by the laws of the State of Texas upon corporations formed under the Texas Business Corporation Act, and to do any and all of the things hereinabove set forth to the same extent as matural persons might or could do.

ARTICLE IV

The aggregate number of shares which the Corporation shall have authority to issue is 100,000 shares of common stock, no par value.

ARTICLE V

The Comparation will not commence business until it has received for the issuance of its shares consideration of the value of not less than One Thousand Dollars (\$1,000.00), consisting of maney, labor dome, or property actually received.

ARTICLE VI

The post office address of the Corporation's initial registered office is 4054 Tartam Lane, Houston, Texas 77025, and the name of its initial Registered Agent is Robin Murphy.

ARTICLE VII

The number of Directors constituting the initial Board of pirectors are two, and the name and address of the person(s) who are to serve as Directors until the first annual meeting of the shareholders or until his successor is elected and qualified are:

NAME

ADDRESS

Phillip Deighton Connard 82 Glover Street

82 Glover Street Mosman 2038 Australia

Robin Murphy

4054 Tartan Lane
Houston, Texas 77025

The Board of Directors shall have the power to alter, amend, or repeal the By-Laws of the Corporation or to adopt new By-Laws.

ARTICLE VIII

The name and address of the Incorporator is:

NAME

ADDRESS

Kathy S. Hile

9800 Richmond, Suite 100 Houston, Texas 77042

IN WITNESS WHEREOF, I have hereunto set my hand this

day of March , 1938.

/1015.001

KATHY S. HILE

12 FEBRUARY 1991

DOCUMENTS AND SUMMARIES APPLATED TO INVESTIGATION OF ISHAN BARDOUTI, SOUTHERN BROKERS INTERNATIONAL ATCHARS BECOME AND ASSOCIATES IN THE TRANSFER OF TECHNOLOGY TO long Tell Helpholes Habitellian mentilità etil de manasmentas astr

COPY OF GONDWANA CONTRACT AND RELATED DOCUMENTS.

BARBOUTI INITIATES ACTIVITIES ON BEHALF OF house

TO MOITIZOGED INSTORM WITH STHOLAY SUNTEN ETIATED DOPHNEATS princepal

BARDOURI BEGINS SEEKING OUT COMPANIES WITH AMBERIVE TECHNOLOGY POTENTIALS AND PROPERTY CHUNE INTO U.S.

MO INTERVIEW WITH LOUIS CHAMPON. 2 MOTTA SITES VINI CHINOS M STON OND HATE FROM

a BARBOUTI TURES DON SPARON AS CONSULTANT TO BENEEN POTENTIAL INVESTMENT OFFERHAMITIES

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2. SECTORIS COMMECTION TO COMMERCE THRU LOUISIAMA Export Council

b. SEATON'S CONNECTION TO HERMAN K. BELLE ETAL

MOENIEW WITH LOWIS ENIMOUNI GIVE MOSPIES with Laray Royces

THERE INTERNIEWS.

BARDOUTI, SEATON AND LOUIS CHAMPON ON FINANCING OF PRODUCT TECKNOLOGIES, INC. TRANT.

2. SEATON tras compileo Listing of MEDDED PROCESS Equipment AND PRICES PROVIDED by LARRY PROVES of Equipment Kensyal AND SENBOR, IND.

b. SEATON ATCIBILITIES INTRODUCTION OF ISHAM BARBOUTI ANO Richard SECORD THRU LARRY REYERS.

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12 FEBRUARY 1991 PAGE 2 OF 3

or BARBOUTI is INTRODUCED TO AFFORSO CAllERAS by SECORD FOR The PURPOSE OF COMMERCING INTO SA. SACKGROUND INVESTIGATION

of Calletas Three D. Mac Hichards

SACKGROUND INVESTIGATION

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2. CALLETAS COMMECTIONS AS COMTRA LEADER

b. Callegas Commeccions to Senior U.S. Acronistration Officials

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sackground Investigation F BARbari Secons BARBOUTI dIRECTS AGENTS AND OPERATIVES OF PROCUREMENT ano Calleras METROORK TO SOUTHERN BROKERS INTERNATIONA.

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2. SABAR Al FAZALLI CONTACTS SBI

b. SABAR A FAZALLI INITIATES PROCUREMENT OF LIST OF MiliTARY Equipment.

CRESONAL FILLS AND RECORDS FIREGI AERIVITIES 188 CUSTOMS INVESTIGATION OF ITEGI AGENTS PROCURENEAR ACTIVITIES OSTAITINI 21

- 2. Listing of Equipment is provided to U.S. Customs With onigoing Activity summaries.
- b. Southern Brokers INTERNATIONAL FRESIDERT TONY HARDIN is notifice of lavertigation.

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2 INFTUENCE OF STATE AND COMMERCE DEPARTMENT 13 EXCERTED AGAINST CUSTOMS.

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BARDOUTI, SECORD AND ASSOCIATES PROCEED WITH PROCUMENT Activities For lang.

une Documents 3 Dominis Kone 2 Commence AND STATE DEPARTMENTS COMMINUE TO LISCERISE TECHNOOSY TRANSFER TO 11200

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2. Complete Listing OF BARBOUTI Companies-Corpile Coep Doc's

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C. Complete Listing of Commerce Licencos IRaqi Sales-Compile Comp

D. Complete Listing of BML LOC's

E. Complete LISTING OF BCCI LOC's

F. Complete Summey of Activities Related To 199-41

CEMTRAL INTELLISENCE ASENCY TRANSCRIPT

GONDWANA CONTRACT AND RELATES DOCUMENTS

FEDERAL BUNGAL OF INVESTIGATION FILE#199-41

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Agriculture Documents 1990 & 1988

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(A) Hew York Telephone

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	SEP		202PM	FR OKLACY	OK NY	208	239-9908	OPER	DISCOUNT	4	6.10	a	
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4	SEP	26	243PM	FR OKLACY		212	235-2780			22	3.82		
5	SEP	26	345PM	TO NEW YORK	ZOZOZ	212	370-1966	"		5	1.50		
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(New York Telephone

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1 2	OCT 13 546PM OCT 14 514PM	TO MONTREAL TO OKLA CITY	PQ 514 735-3231 OK 405 239-2212	DIALED DAY	20	9.54	8
3 4	OCT 14 421PM OCT 15 1213PM	TO DALLAS	TX 214 750-4304 OK 405 239-2212	* *	i	.35	ä
5	OCT 15 742PM OCT 16 1042AM	TO MAYFAIR	MI 313 626-4786 TX 214 855-5335	DIALED EVENING	1 9	2.67	B
7 8	OCT 16 1119AM OCT 16 1122AM	TO UK	4412252711	DIAL STANDARD	6	2.64	B
10	OCT 16 1227PM	TO DETROIT	MI 313 962-0800 MI 313 291-2800	DIALED DAY	1	:34	8
12	OCT 16 328PM OCT 19 1059AM OCT 19 438PM	TO SOUTHFIELD TO DALLAS	MI 313 355-0840		i	.34	8
14	OCT 20 104PM	TO DETROIT	MI 313 535-9830		2	:65	8

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T-TAX RATE APPLIED: 8- 3.00%

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TO GER FED RP 49692940

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Account Number: 212 223-8300 681 March 4, 1988
Page 3

Itemized calls, continued

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1	FEB 09	BOSTON MA	817 247-9308	3 35 PM	DAV		
5	FEB 09	PITTSBURGH PA	412 381-3587	3 60 PM	DAY	!	41.13
3	FEB 08	SOUTHFIELD MI	313 353-0840	4 47 PM	DAY	4	. 20
4	FEB 08	BOSTON MA	817 353-0093	5 24 PM	DAY	*	36
5	FEB 09	PITTSBURGH PA	412 381-3587	5 30 PM	EVE		.15
8	FEB 10	NEWORLEANS LA	504 881-2700	9 22 AM	EVE		.14
1	FEB 10	CONROE TX	409 273-2855	9 38 AM	DAY	*	. 15
8	FEB 10	UK	4412252711	9 42 AM	PAY		. 33
9	FEB 10	UK	4415813027	8 44 AM	D\$	4	2.64
10	FEB 10	UK	4412252711	9 52 AM	US	3	3.65
11	FEB 10	MIAMI FL	305 538-2887	9 58 AM	DS	2	2.54
12	FEB 10	DELRAY BCH FL	305 243-0550	9 57 AM	DAY	1	35
13	FEB 10	MUSTANG OK	405 378-9829		DAY	5	63
14	FEB 10	PITTSBURGH PA	412 361-3587	10 11 AM	DYA	2	.50
15	FEB 10	GREECE	3016515912	10 55 AM	DAY	1	30
16	FEB 10	BIRMINGHAM MI	313 645-9300	11 23 AM	05	. 2	3.39
17	FEB 10	UK	4414997748	1 46 PM	DAY	2	. 56
18	FEB 10	CARNEGIE PA	412 787-4901	. 1 56 PM	90	2	1.78
19	FEB 10	ARGENTINA	541403165	3 33 bW	DAY	1	. 10
20	FEB 10	UK	4413868812	2 55 PM	0\$	2	5.71
21	FEB 10	PITTSBURGH FA		3 34 PM	טט	1	3.25
22	FEB 10	SOUTHFIELD MI	412 762-8591	4 09 PM	DAY	2	. 55
23	FEB 10	BUFFALO NY	313 353-0840	4 12 PM	DAY	1	. 31
24	FEB 10	NEWORLEANS LA	718 845-7058	4 13 PM	DAY	1	.40
25	FEB 10	SOUTHFIELD MI	504 891-2700	4 15 PM	DAY	1	. 53
26	FEB 10		313 353-6655	4 17 PM	DAY	3	
27		CARNEGIE PA	412 787-4901	4 20 1-14	DAY	•	. 85
0	FEB 10	MCLEAN VA	709 \$83-5541-	4 35 PM	CAL		30
8	FES 10	BOSTON MA	617 353-0093	4 52 PM		** 12 3 Carps 5	was in large
9	FEB 10	SOUTHFIELD MI	313 353-0840	5 50 PM	DAY	•	. 24
10	FEB 11	BELLE MEAD NJ	201 281-0612		EVE	2	. 5?
11	FEB 11	UK	4416033300	0 32 AM	DAY	•	. 85
12	FEB 11	CHICAGO IL	312 435-4750	10 40 AM	OS	2	2.64
later	DS-Die	sl Standard d: A-11.25% B- 3.00%	DD-Dial Di	11 84 AM	DAY	1	.51



Account Number: 212 223-3360 vel March 4, 1968 Page 4

itemized calls, continued

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	recti	17 15	d sall	94
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-		-		All Persons like

5.	Date	Place called	Number called	Time .	Bete.	MIO-	- SEMMINT
C	alling numbe	r 223-8300					41.05
•	FEB 11	UK	4412252377	12 05 PM	os		
2	FEB 11	UK	4416032/62	12 US PM	05	2	2.69
3	FEB 11	MCLEAN-VA-	703-883-5541	_ + +1 PM=		William Langer in months of the	22.0
4	FEB 11	NEWORLEANS LA	504 891-2700	1 19 PM	DAY	,	33
3	FES 11	SWITZERLND	411448931	1 21 PM	00		2.28
3	FEB 11	ARGENTINA V	541403646	1 24 PM	05	,	4.82
1	FEB 11	BOSTON MA	817 353-0093	3 30 PM	CAY	•	. 29
•	FEB 11	DELRAY BCH FL	305 243 0550	2 25 PM	DAY		2.75
)	FEB 11	UK	4415813027	2 35 PM	00	.3	
0	FEB 11	SOUTHFIELD MI	313 353-0840	2 42 PM	CAY		. 21
1	FEB 11	SOUTHFIELD MI	313 353-8655	2 48 PM	DAY	,	.31
2	FEB 11	SOUTHFIELD MI	313 353-0840	3 06 PM	DAY	, j	. 31
3	FEB 11	CARNEGIE PA	412 787-4901	3 07 PM	DAY	2	.55
4	FEB 11	FRANCE	33145048543	3 08 FM	00	2	2.28
5	FEB 11	HONOLULU HI	808 524-8000	4 26 PM	DAY	1	.43
3	FEB 11	BALACYNWYD PA	215 667-8899	4 42 FM	CAY	9	1.97
7	FEB 11	DUMONT NJ	201 384-3343	4 59 PM	DAY	1.	.26
8	FEB 11	RED BANK NJ	201 842-7437	5 41 PM	EVE	4	. 20
9	FEB 11	HOUSTON TX	713 981-8000	8 33 PM	EVE	2	. 39
0	FEB 11	MONTREAL PO	514 737-9657	6 50 PM	ELE	5	1 61
	FEB 11	DELRAY BCH FL	305 243-0550	7 00 PM	EVL	21	3.72
2	FEB 12	UK	4415813027	8 13 AM	US	2	2.64
, , , , , , ,	FEB 12	MCLEAN VA	-703 893-5541	8 13 AM	-UAY	maria de la companya	
-	FEB 12	NEWORLEANS LA	504 891-2700	9 19 AM	DAY	1	. 33
	FEB 12	MUSTANG OK	405 376-9629	9 31 AM	DAY	1	. 33
		WHEATLAND OK	405 745-3492	9 34 AM	DAY	1	.33
3	FEB 12	NEWORLEANS LA	504 891-2700	9 42 AM	DAY	i	.35
	FEB 12		201 664-6767	8 45 AM	YAG	4	.17
	FEB 12	WESTWOOD NJ		10 US AM	DAY	4	1.12
	FEB 12	SOUTHFIELD MI	313 353-0840			ü	2.30
)	FEB 12	CARNEGIE PA	412 787-4901	10 14 AM	DAY		. 51
	FEB 12	SOUTHFIELD MI	313 353-8855	11 09 AM	DYA		
	FEB 12	BIRMINGHAM MI	313 258-3576	11 44 AM	DAY		. 21
tel	05-0	iel Standard	00-Diet	Ulecount			



Hemized calls, continued

Directly dialed

Ye.	Date	Place called	Humber called	Time	Bute	MIG.	A11-2401
	alling number	223-8300					
1	MAR 15	GER FED RP	4960233366	MAEI 8	DS	1	61.44
2	MAR 15	LICHTENSTN -	417501144	9 15 AM	08	2	2.03
3	MAR 15	SPAIN -	3432046974	9 16 AM	23	1	1.94
4	MAR 15	SPAIN -	3432048974	B 21 AM	CB	1	1.24
5	MAR 15	ARGENTINA	541403185	9 22 AM	CS .	3	4.82
6	MAR 15	ARGENTINA -	6419625859	9 25 AM	00	1	2.60
7	MAR 15	NEWORLEANS LA	504 891-2700	8 29 AM	CAY	1	33
8	MAR 15	WHEATLAND OK	405 745-3492	10 04 AM	UAY	1	.33
0	MAR 15	UK /	4415813027	10 41 AM	08	4	4.62
0	MAR 15	GER FED RP	4960233366	10 47 AM	CS	3	4.12
1	MAR 15	WHEATLAND OK	405 745-3492	10 54 AM	DAY		33
2	MAR 15	WHEATLAND OK	405 745-3492	10 58 AM	DAY	1	. 33
3	MAR 15	WASHINGTON DC	202 842-7148	11 58 AM	DAY	1	.29
4	MAR 15	LIVINGSTON NJ	201 533-7765	1 10 PM	DAY	1	.26
5	MAR 15	BOSTON MA	817 353-0093	3 C7 PM	DAY	8	1.97
8	MAR 15	PITTEBURGH PA	412 381-3587	3 24 PM	DAY	19	4.80
7	MAR 15	NEWBRNSWCK NJ	201 848-8084	4 12 PM	DAY	1	.28
8	MAR 15	CHICAGO IL	312 855-5926	5 01 PM	EVE	2	.37
9	MAR 16	NEWORLEANS LA	504 891-2700	8 27 AM	UAY	16	4.38
0	MAR 18	UK	4415813027	8 44 AM	05	3	7.63
1	MAR 18	WHEATLAND OK	405 745-3482	9 53 AM	VAG	1	. 33
2	MAR 16	SWITZERLND	4112519001	10 04 AM	ns	1	1 94
13	MAR 18	BOSTON MA	817 247-9742	4 23 PM	DAY	6	1.43
4	MAR 18	PITTSBURGH PA	412 381-3587	4 48 PM	DAT	1	. 30
25	MAR 17	FTLAUDERDL FL	305 525-4000	2 06 PM	DAY	2	.60
6	MAR 17	FTLAUDEROL FL	305 525-4000	2 U8 PM	YAC	2	. 6 U
27	MAR 17	PHILA PA	215 588-6805	2 45 PM	UAY	Z	. 50
28	MAR 17	BOSTON MA	817 353-0083	3 15 PM	DAY	11	2.69
29	MAR 17	BOSTON MA	817 353-0093	3 28 PM	CAY	4	1.01
30	MAR 18	BOSTON MA	617 353-0093	8 56 AM	DAY	1	. 29
	MAR 18	FTLAUDERDL FL	305 525-4000	5 03 PM	EVE	4	1.44
31	MAR 18	BOSTON MA	817 353-0083	5 12 PM	EVE	1	.18
Rates		iml Standard					



Account Number 212 223-8300 687 74 June 4, 1988 Page 4

! Itemized calls, continued.

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101		25.6	- L			_

No.	Date	Place called	Number salled	Time	_Saie _	- Min-	Alisandi
Calling number 223-8300							
1	MAY 17	UK	4414999161	12 48 PML	US		61.23
2	MAY 17	BOCA RATON FL	305 391-1000	1 40 PMB	YAC	•	
3	MAY 17	SOUTHFIELD MI	313 353-0840	2 47 PMB	DAY	3	. 6.
4	MAY 17	BIRMINGHAM MI	313 644-5410	2 53 PMB	EAY	*	1.12
5	MAY 17	SOUTHFIELD MI	313 353-0840	2 58 FMB	DAY	•	. 37
6	MAY 17	SOUTHFIELD MI	313 353-0840	3 13 FMB	DAY	5	: . 34
7	MAY 17	HOUSTON TX	713 952-1630	3 28 PMB	0.47	4	1.11
8	MAY 17	HOUSTON TX	713 952 1630	4 01 PMB	DAY	7	7 6;
8	MAY 18	TAMPA FL	813 264-2932	8 18 AMB	DAY	•	1.1
10	MAY 18	CONROETX	408 273-2955	9 28 AMB	SAY	3	4
11	MAY 18	UK	4412252711	9 52 AML	03	3	3.6
12	MAY 18	SWITZERLND	4112519080	8 30 AML	03		
13	MAY 18	CONROE TX	409 273-2955	9 52 AMB	GAY	3	.8.
14	MAY 18	HOUSTON TX	713 759-0131	11 34 AMB	DAY	-	.01
15	MAY 18	UK	4415813027	1 23 PML	DO	2	2 3
18	MAY 18	UK	4415813027	2 24 PML	00	5	4 2;
17	MAY 18	UK	4415813027	2 43 PML	on	8	6.48
18	MAY 18	ARGENTINA -	541403165	2 56 PML	. DE	7	2.61
19	MAY 18	HOUSTON TX	713 759-0131	3 05 PM8	DAY	1	3:
20	MAY 18	NEWORLEANS LA	504 891-2700	3 16 PMB	DAY	10	2.71
21	MAY 18	NEWORLEANS LA	504 891-2700	3 27 PMB	DAY	1	7.9;
22	MAY 18	PERU /	5114484183	3 38 PM	00	1	1.2
23	MAY 18	SOUTHFIELD MI	313 353-0840	3 41 PM8	DAY	5	1.20
24	MAY 18	MIAMIFL	305 538-2887	4 33 PMB	PAY	1	. 3:
25	MAY 18	HUNTITNBCH CA	714 840-8235	4 45 PMB	CAY	1	.31
26	MAY 18	HUNTITNBCH CA	714 840-8235	5 00 PMB	EVE	17	2.2
27	MAY 18	CONFOE TX	409 273-2955	9 42 AMB	DAY	4	1.20
28	MAY 19	UK	4412252711	10 25 AML	DS	2	2.4
29	MAY 18	SPRING TX	713 350-8115	10 30 AMB	CAY	2	.61
30	MAY 19	MIAMI FL	305 538-2887	10 33 AMB		E	1 61
31	MAY 19	UK	4415813027	10 56 AML		2	2.60
32	MAY 19	UK	4414930888	10 58 AML	US	2	2.61
	MAY 18	MIAMI FL	305 538-2887	11 38 AME		ì	5.
33 Rates		iml Standard	DD-Dial				
- 11	1		Tine Plan				

Indicators: B ATAY Pro im America Calling Plan T-Tax rate applied: B- 3.00%

89/11/89 :8:27 9.82



Account Number: 212 223-8300 587
April 4, 1988

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pirestly dialed		Number celled	Time	Rate	Min	Amount T
CANING NUMBER LIAR 08 LIAR 10 LIAR 10 LIAR 10 LIAR 10 LIAR 10 LIAR 10 LIAR 10	PIEDE CSILED 233-3300 NEWORLEANS LA LIVINGSTON NJ NEWORLEANS LA UX UX NEWORLEANS LA BIRMINGHAM MI BIRMINGHAM MI UX UX	\$04 891-2700 201 533-7765 504 891-2700 4418033782 4418038425 504 891-2700 313 845-9300 4418428811 4412252711	2 44 PM 2 54 PM 3 30 PM 3 30 PM 3 58 PM 3 58 PM 3 58 PM 5 60 PM 5 60 PM 9 48 AM	244400000000000000000000000000000000000	2152111156	*.60 B .26 B 1.41 B 1.98 B 1.23 B 4.23 B 4.25 B

Ministry March II, 1991

\$1.5 Billion in U.S. Sales to Iraq

Rehnelogy Products Approved Up to Day Before Invasion

lle Stuart Auerboch Mountains Pen Scale Wener

The day before tray sent its troops pour ing ince Rewait, the Dush administration approved the mile of \$695,000 worth of advanced data transmission devices to the Iraqi government, according to U.S. government PERMIT

The sale was just one item in \$1.5 billion in advanced U.S. products that the Reagan and Bush administrations allowed Iraq to buy from 1935 to 1990.

in all, the U.S. government approved 771 soles of technology to free that included adrespected computers, radio equipment, graphics terminals that could be used to design rockets and analyse their flights, machine tooks computer manning systems and imagme devices for reading satellite pictures, according to the records made available last

week to the House Government Operations Subcommittee on commerce, consumer and monetary affairs, .

Much of the technology was sold to key ministries of government, including the Defense Ministry, Interior Ministry and the Atomic linergy Commission, as well as unversities and acientific institutions that were leveled by allied bombing for being part of tran's poison gas and nuclear weapons setabliahment and its industrial infeastructure, according to the Pentagon's war reports.

Some of the sales were not high-technology items, such as \$45,4 million in personal helicopters for Iraqi Prosident Saddam Ilussein ami other high-ranking trans officials, according to the unclassified recerds, which were obtained by The Washington Post.

Other helicopters, worth \$25 million, were hought for erop dusting. U.S. intelli-See IRAQ SALKS, ALG, Col. 5

a Series related to the aftermath of the Persian Gull War are in the World News section.

U.S. Allowed Sale to Iraq For Saddam's Helicopter

1940 BALES, From Al.

penco sources taid the Los Angeles Times that some of the helicopters were used to spray poison gas on Kurdish civilings in 1988. The leavesal government size sufficeized the estin of 16 hallowetters, worth \$20 million, to the Imel Air Forcer for squeets and reserve operations.

Administracione dell'edule solici the \$1.5 hillion in mice were approprie first under a policy of the Renume administration to hair limit in its mor with Irms. The policy was continued after that was embed in 1988 and picked up by President Stalk when be took effice in 1980 in an effort to try to encourage Suddem to be a more responsible member of the international enmanumity and here him twoy from his traditional destabilitying role is Mideral priblics.

Former Provident Renald Reagns, is a Utais speech last reantly, admitted that "we committed a bence with regard to lette and our close relation with lane."

Secretary of State James A. Boller ill told congressional committees. estestioning the administration's acparent failure to move decisively against Iraq last spring, when Saddoes liest began assuming a more threatening posture, that it was wrong to band out blance for past policies when the United States was insitting an international consumous to fight Sociation.

In his Jan. 29 response to Bush's State of the Union sudross, howevcr, Senate Majority Lander George

J. Mitchell (D-Maine) suich "When
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we must never forget. The dictature
we help today may term his weepens
on as temorrow. For 10 years, U.S.
policy favored leng, We can't repeat that kind of mistake."

The miss siso underscore the dillicuity of trying to control the spread of teriprology to a country determined to not it. The Soviet Union was lime's made arms supplies and many of the computers and other high-tent items leng needed for its military and nuclear and chemical weapons programs were brught from other nations, purchasing Genicony and France.

In many create, however, especially those involving schemened commuters and computer decoupling the best is available only in the United States. Iraq often trice to obtain incres clasdestinely and through legal channels.

The policy of trying he influence a country's buddeniar by allowing it asin belief and spelicetheet 2.U at zero enter countries, too. The Rengen and Boxis actinimistrations, for instance, atlowed Pokistan to buy nemocrat F-16 at fightors in hoose of personaling isamator that its condessine machine program was unnecessary. Polinical continued to try to build a bomit, U.S. analysis concluded, and last year Washington cut oil military six.

In the case of laws, the 105 pages of documents made available to the House subcommittee showed that in the 15 days preceding leng's Aug. 2 tovosten of Knowell, the Black administration approved femous for \$4.8 million in advantant technology products.

On one stop, July 17, the administra-tion approved the sale of \$2.4 million in computers. Almost \$31.5 million of those computers were said to an agency that had been remarked secretly two years earlier as the Ministry of Indus-try and Military Industrialization, it was breded by Eric Con, Harmin Kamei Hatan, a som-la-bus of Southirm's Ministry of Industry and Minerals.

"What it meson is the administration had no problem with imag until the day

after Sections's proofee walked been Noweit," one administration official said.

For example, more than \$1 million in computers, light simulators and either inchmology products were itcrossed for soile to Sand 18, on bost resenior renter swith of linguished that was classrossed in the allied bombing became it was believed to be developing melcolik total person gras.

According to the recerds turned mer to the limine subcommittee, this and all subser soies look the hall concersomes of the Commerce, Dolence, Doergy and State Departments as well as an interruptive committee, the Subgroup on Nuclear Expert Controls SMICL that includes representatives of the intelligence epmynumics.

Interrugency authorising for the sales were deletal from corner decuments provided to Congress on soles to free, but the White Simuse silpered the Commence Democratent in include them in the recents returned but week.

Commerce officials said they tried in lighten U.S. miles on technology soles to lines other Souldern chreatened to use prince gas no benefit bet spring. but were rebuilled in interacency meetings in tun afficials of the State Demotracon, "I they didn't change the policy, uniter law we routhly't sielness up the common " one-official said.

The Commerce Department is forbiddien by low its release the names of the empories making the sales. But reuners land reported they believe some of the giants of American technoltion libratest Protein Ca., Scientific Address Inc., Tokerents Inc., William Ca., Hinghes Aliveralt Co., and the Ball Acrospose division of Textres Inc.

The frame these and other compatales personaled absenced a toride range of activities. The records showed that the Osmmoros, Delense and Energy A beverage 2012 best elementaries censing the sale of \$525,550 in comfictions of the earliest to the mile appoint bland and example mutenaged that could he used in the manufacturing of matieare wommone and measures, iron said it was busine the immoces and computer controls from Corece Corp. to make artificial limbs for viscions of the largelitte were, a possible legizimate use of the opsigment, experts said.

The sale of the compating replyment was appreved Jan. 31, 1990, aiser two manufacts of review. The \$11 million sails of the foot formaces was alson insurgific tod Jovennest us stemped on the docks but June.

Allbough the bulk of the licenses! U.S. sales to long wore competers and other athenced electronics, impi purchance included \$1.4 million in mochine took in Jeneral military reprint," including jet engines and recket come the documents showed. Anothe or \$22 million in soles of quarts crystals and electronic year was approved for use in line's make delense not. More than \$1.1 million in companyrs was represent for sale to a detergent manufacturing plant at Bell, in northmestral limit, which U.S. officials reprecipilly bombed because it was the site of a chemical weapons factory.

The government also approved sales of \$1.3 million in competers and integring equipment to universities and the Delimes Ministry to help imagest data from setablics and make better maps. It ficerosed the sale of \$554,000 In exemplates equipment to improve · lime's military communi and control capability, a prime target of allied bombing raids, and \$1.5 million in electronic gear to teach implications conicts how to use computers.

The features, though, were bound in ... The implipation for U.S. comput-the former some of the agency, the ... went so for that the Al Purvays. Club benefit: \$35,000 worth of rough ment for its matern to total horse racing bate, adds and payolik.

U.S. Allowed Sale to Iraq For Saddam's Helicopter

INAQ BALKS, From Al

Times that some of the helicopters were used to spray poison gas on Kurdish civilians in 1988. The federal government also authorized the sale of 16 helicopters, worth \$30 million, to the Iraqi Air Force for search and rescue operations.

Administration officials said the \$1.5 billion in sales were approved first under a policy of the Reagan administration to help Iraq in its war with Iran. The policy was continued after that wan ended in 1988 and picked up by President Bush when he took office in 1989 in an effort to try to encourage Saddam to be a mere responsible member of the international community and ture him away from his traditional destabilishing rate in Mideast politics.

Former President Ronald Reagan, in a Utah speech last month, admitted that "we committed a boner with regard to Iraq and our close relation

with iraq."

Secretary of State James A. Baker III told congressional committees exestioning the administration's apparent failure to move decisively against Iraq last spring, when Saddam first began assuming a more threatening posture, that it was wrong to land out blank for past policies when the United States was imidding an international consensus to fight Saddam,

In his Jan. 20 response to Bush's State of the Union address, however, Senate Majority Londor George J. Mitchell (D-Maine) said: "When the war's over there is one lesson: we must never forget: The dictator, we help today may turn his weapons on as temorrow. For 10 years, U.S., policy favored Iraq, We can't repeat

that kind of mistake,"

The sales also underscore the difficulty of trying to control the sprend of technology to a country determined to get it. The Soviet Union was Iraq's main arms supplier and many of the computers and other high-tech items land needed for its military and nuclear and chemical weapons programs were bought from other nations, particularly Germany and France.

those involving advanced computers and computer actworks, the best is available only in the United States.

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For example, more than \$1 million in computers. Hight simulators and other technology products were incensed for sale to Sand 16, an Iraqi research center north of liaghdad that was destroyed in the allied bombing because it was believed to be developing mekets and poison gas.

According to the records turned over to the House subcommittee, this and all other sales had the full concurrence of the Commerce. Defense, Enorgy and State Departments as well as an interagency committee, the Subgroup on Nuclear Export Controls

(SNEC), that includes representatives of the intelligence community.

Interagency approvals for the sales were deleted from earlier documents provided to Congress on sales to Iraq, but the White House allowed the Commerce Department to include them in the records released last week.

Commerce officials said they tried to tighten U.S. policy on technology sales to lead after Saddam threatened to use poison gas on Israel last spring, but were rebuffed in interagency meetings by top officials of the State Department, "If they didn't change the policy, under law we couldn't tighten up the controls," one official said.

The Commerce Department is forbidden by law to release the names of the companies making the sales. But sources have reported they include some of the giants of American technoloxy: Hewlett Packard Ca., Scientific Atlanta Inc., Tektronix Inc., Wiltron Ca., Hughes Aircraft Co., and the Boll Acrospace division of Textron Inc.

The items these and other companies provided covered a wide range of activities. The records showed that the Commerce, Defense and Energy departments and SNEC approved licensing the sale of \$525,550 in computer equipment to go with special high-temperature furnaces that could be used in the manufacturing of nuclear weapons and missiles. Imag said it was buying the furnaces and computer controls from Consare Corp. to make artificial limbs for victims of the Imag-lima war, a possible legitimate use of the equipment, experts said.

The sale of the computing equipment was approved Jan. 31, 1000, after two months of review. The \$11 million sale of the four furraces was al-

s to Iraq

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everament Operations merce, consumer and

chogy was sold to key ent, including the Doior Ministry and the ission, as well as uniinstitutions that were ing for being part of uclear weapons estabrial infrastructure, aco's war reports,

are not high-technolo-4 million in personal esident Saidam Husdag tranj efficials, scdied records, which Vashington Post,

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The policy of trying to influence a country's bobavior by allowing it accross to U.S. technology has failed in other countries, too. The Rengan and Bush administrations, for instance, allowed Pakistan to buy advanced F-16 let fighters in hopes of persunding lalamahad that its clandestine nuclear program was unnecessary, Pakistan continued to try to build a bomb, U.S. naslysts concluded, and last year Washington cut off mulitary nick,

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On one day, July 17, the administration approved the sale of \$3.4 million in computers. Almost \$2.5 million of those computers were sold to an agency that had been renamed secretly two years sariler as the Ministry of Industry and Military Industrialization, it was headed by ling. Gen. Hussein Kaniel Hasan, a son-in-law of Saddam's. The licenses, though, were issued in the former name of the agency, the Ministry of Inclustry and Minerals.

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The Items these and other companies provided covered a wide range of activities. The records showed that the Commerce, Defense and Energy departments and SNEC approved licensing the sale of \$525,550 in computer equipment to no with special high-temporature furnaces that could be used in the manufacturing of nucleat wonpone and missiles. Ima said it was buying the formaces and computer controls from Consure Corp. to make artificial limbs for victims of the Iraq-Iran war, a possible legitimate use of the equipment, experts said,

The sale of the computing equipment was approved Jan. 31, 1090, alter two months of review. The \$11 mulion sale of the four furraces was also approved, but shipment was stopped on the docks last June.

Although the bulk of the licensed U.S. salus to Iraq were computers and other advanced electronics, Iraqi purcharge included \$1.4 million in machine tools for "general military repairs," including jet engines and rocket the documents showed. Anothe er \$3.3 million in mics of quarts crystals and electronic gear was approved for use in Iraq's mider delense net. More than \$1.1 million in computers was approved for sale to a detergent manufacturing plant at Ball, in northcentral leng, which U.S. officials reportedly bombed because it was the site of a chemical weapons factory.

The government also approved sales of \$1.3 million in computers and Imaging equipment to universities and the Defense Ministry to help Iraq get data from satellites and nuko better maps. It licensou the sale of \$554,000 in computer equipment to impreve Iraq's military command and control capability, a prime target of allied bombing raids, and \$1.5 million in electronic gear to teach iraqi officer codets how to use computers.

The Iraqi appetite for U.S. computers went so for that the Al Furusys Club bought \$35,000 worth of equipment for its system to total horse rac-

ing bots, odds and payolfs.

Working Document Resource Listing

1. Confidential Report - Preparces By Robert F. Bickel, Sr. Strategic Therical Follow Up Report
lizagi Attempts To Seathe
Computative, Electronic And Military Equipment
Operations 1st Quarter 1989

This document dated May 20,1990 Is a Summary and Review of an investigation initiated by U.S. Customs in the Ist Quarter of 1989 and called off by senior Customs Officials AT the insistance of the United States Departments of State and Commerce. The pare as a Review of the Field Activities of the investigation in answer to Requests by Howston Area Group Leader.

2. Confidential Report - Frepares by Robert F. Bickel, Sp.
Threat Assessment Potential For
Illegal and Covert Transfer
OF Technology In Thre
Petro-Chemical Industrial Complex

This document dates 20 May 1990 Is an initial Assessment of Technology Transfer Potential From various segments of the oil and gas industry. It was prepares as a elemental Review Document for the use of an U.S. Customs Service Regional Co-depinating Officer charges with Establishing A Technology Transfer Interopionion Regear, Area specific to the oil and gas industry.

d. Listing of Companies

Securce Source-Congressional Level

Itaqi Front Companies

This histing of Companies is a grouping of organisations operating for the benefit of the loagi Government and are state owned or provitized propprietaries. A secondary element of the listing is made up of companies owned by Ishan Barbouri.

Desavings and Technical Specifications Assoit
Desarcament of itse Army
Office of the Deputy Chief of Staff For Operations And Plans
Referencing Engineering Drawings Associated with the Mooth
Trant Area, Rocky Mountain Aresenal.

This documentals the Audit AND EVALUATION OF The SECURITY
STATUS OF DECLASSITIED ENGINEERING DRAWINGS, TECHNICAL
Specifications AND MATERIALS REQUIREMENTS RELATED TO THE
NORTH HAM. SECTION OF THE ROCKY MOUNTAIN ARSENAL, Chemical
AND BIOLOGICAL WEAPONS. SIGNIFICANT IS THE STATEMENT CONTAINED
IN the document; "The compilation of All drawings would in effect
PROVIDE TETRORISTS OR THIRD WORLD NATIONS EXCRUCIATING DETAILS
ON how TO build AN AGENT PRODUCING PLANT, SIZING REQUIREMENTS,
MATERIALS OF CONSTRUCTION, SPECIALIZED EQUIPMENT NEEDED FOR THE
PROCESS AND SUFFICIENT INTORMATION TO PROVIDE CAPACITY SCALE
UP OR SCALE DOWN..."

3. Internal Communications Memo- TAS Analysts
United States Department of Agriculture
Foreign Agricultural Service
Referencing GSM-102 For loag- New Oceans and Allocations

This document dated 22 Septemberr 1988 is Regularors
AS A PROTEST MEMO PREPARED AND SIGNED by SEVEN MEMBERS
OF the Foreign Agriculture Service Staff Related to the
AMOUNCEMENT OF NEW ORDITS AND Allocations of Tragi Ordit
GUARRANTEES PROVIDED UNDER THE Agriculture Department
LOAN GUARANTEE TROSTRAM.

4. INTERNAL INTORNATION MEMORANOUM FOR UNDERSECRETARY CROWDER
UNITED STATES DEPARTMENT OF Agriculture
TOTRIEGH Agriculture Service
REFERENCING GSM-102, FROS AND COMS FOR ADDITIONAL 500 MILLION

This document dated 23 Feb 1990 is a FAS STATE PAPER PREPARED ON VARSIOUS ELEMENTS OF AMADUNCING ADDITIONAL GSM-102 CREDIT QUARRANTEES FOR IRAQ. MOST descriptive STATEMENT CONTAINED IN The document is "In the worst case scenario, investigations would Find a direct link to timencing Iraqi military expenditures, parricularly the Condor Missile.", This in reference to Commodity Credit Corporation and Banca Mationale del Lavoro investigations.

In The United States District Court
For The Morathern District of Georgia
Atlanta Division
United States V Banca Marionale del Lavoro Employess and
Itraqi Marionals.

This document is a full copy (138 pages) of the inderthene RETENTINED by a teoeral Grano Tury against ten detembants on 347 counts of consider, mail and wire France. These activities and Events Are covered in a Dated sequence throughout the indictment providing significant information for erossisteraxing related activities and events of Iraqi Technology procurement. The Indictment Enumerates by dates "The Conspiracy," Manner and Means of the Conspiracy and Over Acts," including Money Laumbreing"

d. Listing of Companies

United States Department of Commerce

Torziegn Liscencing Listing

Turnished by Lamine Kome Secure Congressional Source

This Listing is a paretial group of companies granted
export Liscences by the United States Commerce Deparament
for export of technology and equipment to the Iraqi government.
Much of this grouping of companies deals specificly with
Nuclear Power Equipment.

R. FEDERAL BURSCALL OF INVESTIGATION FILE #199-41
AssignED FOR INVESTIGATION 1-11-83
TitleD - Palestine Liberration Organization
FCI-PLO-TETBORISM

This document collection insentifies the recivities of AH Operative of the Central Intelligence Agency Established by back channel operations out of the Whitehouse As AH AIRMS AND MUNITIONS dealer Early in the Iran Contral Affair. An Analysis of this file and Arlated documents has Resulted in Establishing Links to technology transfer to load through the intelligence community as a parablel operation with Iran Contra. Significant Information contained Relates to a Service of overlapping companies appraising to be involved in transferring nuclear reactor technology through intelligence channel proprietaries to the Middle East and Other Thirso World Nations.

More: Also In hand are the tranousinten notes and references

From Interviews with numerous individuals related to

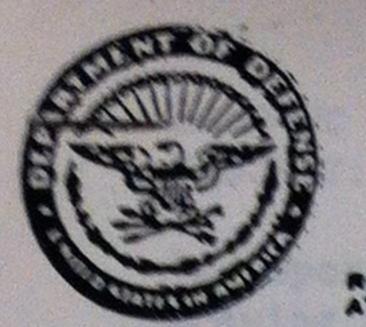
Various elements of Technology Transfer. This

Indupes a computarized Listing of over 250 pages

Of summaries on Individuals, Companies and Organization

And Financial Facilities utilized by the intelligence

community.



DEPARTMENT OF THE ARMY OFFICE OF THE DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS WASHINGTON, DC 20310

REPLY TO ATTENTION OF

DAMO-NC

7 AUS TAL

SUBJECT: Engineering Drawings Associated with North Plants Area

THRU:

Commander

US Army Materiel Command

ATTN: AMCCN-C

5001 Eisenhower Avenue Alexandria, VA 22333

Commander

US Army Armament, Munitions

and Chemical Command

ATTN: AMSMC-ASN

Rock Island, IL 61299

TO:

111

Commander

Rocky Mountain Arsenal Commerce City, CO 80240

- 1. Reference is made to Memorandum for Commander, RMA, 25 July 1985, subject as above.
- 2. In order to execute action in paragraph 3, above reference, it is essential, in accordance with Section 8, AR 380-5 (DA Information, Security Program Regulation), that a certified determination be made that control of the information has not been lost, can be prevented from being lost and if the information has been released to secondary sources, who are the sources and do they still have control of the information.
- 3. Request you take the necessary action to determine:
 - a. Who has copies of the subject drawings?
 - b. Has secondary distribution of the drawings been made?
- c. The name, address and POC of holders of the information if secondary distribution has been made.
- d. Has control of the drawings been lost by either the primary or secondary holders of the information?

O-NC BUECT: Engineering Drawings Associated with North Plants Area

Upon receipt of the certification and a complete listing of the titles and drawing numbers, this office will take necessary action to classify the subject information.

FOR THE DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS:

Colonel, GS

Acting Director,

Nuclear and Chemical

NOTES

Dr. R. E. Boyle's Trip to RMA 22-26 July 1985

LIST A

- 1. Item 12, List A, Manual I, General Discription of Incendiary Oil Plant. 6 Aug 52.
 - - Remains classified CONFIDENTIAL.
 - Summary description of contents of all related manuals.
 - Portions of the document could be excised but would be unintelligble except for Health and Safety Section, Fire Fighting Section, Physical Constants Section.
- 2. Not listed, IOP, Manual VI, Tank Farms, 8 Aug 1952.
 - Is UNCLASSIFIED.
 - Description of Tank Farm Area.
 - Can be released.
- 3. Item 9, List A, Manual II, Production of UV, Step IV & V, Volume 1, 29 July 1952.
 - C- Remains CONFIDENTIAL.
 - Production of GB from DC.
 - Health and Safety Section can be regraded UNCLASSIFIED and released.
- 4. Item 10, List A, Manual II, Production of UY, Step IV & V, Volume II, 29 July 1952.
 - Same comments as Item 3.
- 5. Item 5, List A, Manual IV, Munitions Loading, Sue, WT to Sep 1952.
 - Remains CONFIDENTIAL.
 - Describes activities and facilities for LAP of munitions and storage.
 - Health & Safety Section can be regraded UNCLASSIFIED and released.

- 6. Item 1. List A Process Specs. PDW. 1 Oct 53.
 - Remains classified CONFIDENTIAL.
 - Summary of all pertinent process information for PDW production of DC, PCl3, POCl3
- 7. Item 2. List A. Process Specs. IOP, Job 33B, 1 Aug 51.
 - Remains classified CONFIDENTIAL.
 - Summary of all pertinent process information for GB.
 - _ In appendix
 - -- Fire & Health Hazards may be regraded UNCLASSIFIED & released. (p 4c).
 - -- Technical Data (p 47 thru 48) may be regraded UNCLASSIFIED & released.
 - Technical Data (p 56 thru 70) may be regraded UNCLASSIFIED & released.
 - -- References may be regraded UNCLASSIFIED and released.
- 8. Item 3, List A, Process Specs. Revised, IOP, Job 33B. 1 Oct 53.
 - Remains classified CONFIDENTIAL.
 - Revisions to Item 7.
 - Appendix Information may be regraded UNCLASSIFIED and released (pages 47 thru 112).
 - References may be regraded UNCLASSIFIED and released.
- 9. Item 4, List A, Physical and Chemical Data. 31 Aug 1951.
 - Document may be regraded to UNCLASSIFIED and released.
- 10. Item 5, List A. AlCl3 Process; Preliminary Evaluation (For PDW). 21 Jun 1952.
 - Retain Classification.
 - Summarizes Pilot Plant Experiments for the production of DC.

- 11. Item 6, List A, GB Process Development. Evaluation of Manufacturing Processes for GB. 1 Mar 51, Part I
 - Retain Classification.
 - Report provides recommendations to improve GB Manufacturing Process.
- 12. Item 7, List A., GB Process Development. Evaluation of Manufacturing Processes for GB. 1 Mar 51, Part 11.
 - Retain Classification (CONFIDENTIAL)
 - Appendix to Part I Item 11.
- 13. Item 11, List A. Expansion Survey BDM Project Job 33, 10 June 52. 2 Copies.
 - Retain Classification (CONFIDENTIAL)
 - Documents describe requirements to expand production of PDW.

SPECIAL NOTES

- (1) The reason review notes are out of order is that duplicate copies were found in another Box and notes were added separately, see "notes" (Items not on List A) 85-07-23.
 - (2) All items on List A are in box labeled:

Organizational Construction.

Information on GB Process.

Material is CONFIDENTIAL.

Excluded from GDS.

Historical Information.

- (3) Item 2 was found in another box, see note 1.
- (4) Recommend duplicate sets of items 8 thru 12 be destroyed.

*

LIST B

- 1. Box 1 of 8 (Item I) (Nothing Classified in Box) (Marking should be removed).
 - a. File Folder 1, Nothing classified. Delete FOUO may be released.
 - b. File Folder 2, Nothing classified. May be released.
 - c. File Folder 3: (see individual items listed below).

Item

Disposition

(a) Tech Report 73

May be released

- (b) 3 Dept. of Agricultrue Reports marked "not for publication". Recommend Dept. of Agriculture be notified by letter that the reports will be released to the Counsel - if they object notify DA.
- (c) Four (4) Tech Reports.

May be released.

(d) Test Site Operations.

May be released.

(e) Technical manuscript 201.

May be released.

- (f) Demil Certification Cards.
 - Not Classified.

 (No inferences to total production).

May be released.

- Should be placed in permanent historic storage because they are the back up for the final report on Demil of TX.

2. Box 2 of 8 (Item II)

Demil Data Cards

- Not Classified (No inferences to total production).
- Ibid 1 C (f).

Disposition

3. Soxes 3 to 7 of 8 (Items III thru VII)

Demil Data Cards

- No longer classified SECRET by Compiliation
- Ibid 1 C (f).
- 4. Box 1 of 2 (Item IX)
 - Furnace Recorder Charts
 - No longer classified SECRET by Compilation
 - Ibid 1 C (f).
- 5. Box 2 of 2 (Item X)

File No.

- Furnance Recorder Charts
- Same as 4.
- 6. Item XI TX Production Seasonal Reports.

(1)	Sur:	ied Material	UNCLASSIFIED Releasable
(2)	Bur	ied Material 1973	UNCLASSIFIED Releasable
(3)	Tri	Reports:	
	10	Panare of Wieit - ASESR(DODESR)	
	(a)	Report of Visit - ASESB(DODESB) 29 Sep 70 - Regrade to UNCLASSIFIED	Releasable
	(p)	Report of Visit - Sites 1, 3 & 4 1 Apr 70 - Regrade to UNCLASSIFIED	Releasable
		Apr /U - Kegrade to UNCLASSIFIED	Keleasable
	(c)	Report of Visit - Sites 1 & 3	
	Aug 1	Report of Visit - Sites 1 & 3 21 Oct 69 - Regrade to UNCLASSIFIED	Releasable
	(d)	Report of Visit - Site 3 5 June 68 - Regrade to UNCLASSIFIED	Releasable
		3 Julie 66 - Wellage to Olioparonii in	
	(e)	Report of Visit - Site 1	
		12 Sep 67 - Regrade to UNCLASSIFIED	Releasable

(f	Report of Visit - Marysville CA & Denver, CO; 28 Jul 67 - Regrade to UNCLASSIFIED	Releasable
(g	Report of Visit - TX Operational Field Site & Supporting Elements; 13 Feb 67 Regrade to UNCLASSIFIED	Releasable
(h)	Report of Visit - Ft. Detrick 28 Feb 66 - Regrade to UNCLASSIFIED	Releasable
(i)	MFR to DEIS 30 Aug 65 - Regrade to UNCLASSIFIED	Releasable
(j)	Trip Report - 6-16 July 65, 23 Aug 65 - Regrade to UNCLASSIFIED	Releasable
(k)	Report of Visit - Site 1 3 May 65 - Regrade to UNCLASSIFIED	Releasable
(1)	MFR Report of Visit - SP Operations Sites 1, 3, & 4; 16 May 69 Regrade to UNCLASSIFIED	Releasable
(m)	MFR Report of Visit - SP Operations Sites 1, 3, & 4; 15 Feb 65 Regrade to UNCLASSIFIED	Releasable
(n)	MFR Report of Visit - Ft. Detrick 16 Oct 64 - Regrade to UNCLASSIFIED	Releasable
(0)	MFR Report of Visit - by Dr. Reitz 17 Aug 64 - Regrade to UNCLASSIFIED	Releasable
(p)	Trip Report to RMA 2 Jul 64 - Regrade to UNCLASSIFIED	Releasable
(p)	Report of Mtgs, Trip and Visits 6 Aug 63 - Regrade to UNCLASSIFIED	Releasable
Buri	ed Material	
a)	LTR, Plan for Sampling Wells 15 Feb 73 - Regrade to UNCLASSIFIED	Releasable
ь)	LTR to PMOCM 2 Jun 73 - Regrade to UNCLASSIFIED	Releasable

(c) LTR SMUE-CM, Disposal of USAF OPLAN MATERIAL, RMA; 24 Apr 70 Regrade to UNCLASSIFIED

Releasable

- (d) Draft Plan for Disposal of Buried USAF OPLAN Material Apr 70 Retain Classification contains info available material in stockpile.
 - (e) LTR SMUEA-CM, Additional Requirements RMA
 Retain Classification Stockpile figures
 - (f) LTR & 1st Ind 1, Apr 70,
 Disposal of USAF OPLAN
 Material at RMA-Retain
 Classification contains
 stockpile figures
 - (g) MSG P232235Z Mar 70 Regrade to UNCLASSIFIED

Releasable

- (h) LTR, Disposal of USAF OPLAN Material at RMA, 12 Mar 70 Retain Classification contains stockpile figures
- (i) MSG P 232108Z Mar 70, Disposal of USAF OPLAN Material RMA,
 Retain Classification contains stockpile figures.

(5) Operations Guides

(a) Opns Guides (1-12)
- Regrade to UNCLASSIFIED

Releasable

(b) MSG, 111926Z Jan 66 - Regrade to UNCLASSIFIED

Releasable

(c) DF: 3 Feb 66, Safeguarding Operations Guides - UNCLASSIFIED

Releasable

- (6) Site 1, Seasonal Rpt 1963
 - Retain Classification
 - contains specifies of harvested quantities and methodologies
 - all other parts may be released
- (7) Site Seasonal Rpt 1964
 - Page 1 & Table of Contents
 - Regrade to UNCLASSIFIED

Releasable

- Page 7 thru 82 Retain Classification - shows yields
- (8) Site 1 Seasonal Rpt., 2 Dec 64 (2nd Cycle)
 - Retain Classification of pages 31&34 Shows yields.
 - Others may be released.
- (9) Monthly Rpts TX Product
 - Regrade to UNCLASSIFIED

Releasable

- (10) Site 2 Seasonal Report 15 Sep 64
 - Retain Classification on pp 6, 7, 8 & 10
 - Shows yields
 - Others may be released.
- (11) Site 1 Seasonal Opnl Rpt., 31 Dec 65
 - Retain Class on pages 27, 36 thru 48
 - Info on yields
 - P49 can be regraded to UNCLASSIFIED

D-1-----

- Regrade pages 50, 54A to UNCLASSIFIED

Releasable

Releasable

(12) Site I Seasonal Operational Rpt 31 Oct 66

- Retain Classification on pages 3, 22.
- · Info on yields

(13) Site | Seasonal Rpt., 1967

- " Retain classification on pages 2, 24 thru 32. Info on yields
- May regrade remainder to UNCLASSIFIED

(14) Site 1 Seasonal Rpt., 1968

- Retain Classification on pages 2, 14 thru 22.
- Info on yields
- May regrade remainder to UNCLASSIFIED

(15) Site 1 Seasonal Rpt., 1969

- Retain Classification on pages 3, 18, 19
- Info on yields
- May regrade remainder to UNCLASSIFIED

(16) Site 3 Seasonal Rpt., 1964

- Retain Classification on page 50
- Info on yields
- May regrade remainder to UNCLASSIFIED

(17) Site 3 Seasonal Rpt., 1965

- Retain Class on page 5 Info of yields
- May regrade remainder to UNCLASSIFIED

(18) Sice 3 Seasonal Rpt., 1968

- Retain Classification on pages 23 thru 27
- Info on yields
- May regrade remainder to UNCLASSIFIED

- (19) Site 3 Seasonal Rpt., 1969
 - Report may be regraded to UNCLASSIFIED
- (20) Site 4 Seasonal Rpt., 1964
- Report may be regraded to UNCLASSIFIED
- (21) Site 4 Seasonal Rpt., 1964
 - Retain Classification on pages 22, 26
 - Annex A-Retain Classification on pages 6, 7,
 - Info on yields
 - Remainder may be regraded to UNCLASSIFIED
- (22) Site 6 Seasonal Rpt., 1965
 - Retain Classification on pages 21, 22, 23
 - Info on yields
 - Remainder may be regraded to UNCLASSIFIED
- (23) Site 6 Seasonal Rpt., 1966
 - Retain Classification on pages 16, 16, 18
 - Info on yields
 - Remainder may be regraded to UNCLASSIFIED
- (24) Site 6 Seasonal Rpt., 1968
 - Retain Classification on pages 40, 41, 42, 43, 44
 - Remainder may be regraded to UNCLASSIFIED
- (25) Final Rpt Development of A/B 45Y-2 Spray tank
 - Retain Classification
 - Weapons development

(26) RMA Final Rpt

- UNCLASSIFIED
- No objection may be released

(27) Capital Equipment

- (a) LTR, Plan for Disposal of TX
 Production Equipment, 1 May 70
 Regrade to UNCLASSIFIED
- (b) MFR, 28 Sep 65, Improvement of M5 Harvester Regrade to UNCLASSIFIED
- (c) LTR, Request for Additional Capital Equipment Dollars, 27 Sep 65 Regrade to UNCLASSIFIED
- (d) LTR, Capital Equipment for FY 66 Regrade to UNCLASSIFIED
- (e) LTR & 1st Ind, Cost of Optional Items Regrade to UNCLASSIFIED
- (f) MFR, 15 May 64, Capital Euipment for Special Projects Regrade to UNCLASSIFIED
- (g) LTK, 4 May 64, Add'l Funding Requirements for AFMIPR Regrade to UNCLASSIFIED
- (h) LTR, 19 Jun 62, No. of Harvesters Required Regrade to UNCLASSIFIED
- (i) ENCOM Rpt #39
 Not Classified
- (j) Pictures Not Classified

(28) Residue Maps

- Not Classified
- Releasable

- (29) VU Graphs
 - Regrade to UNCLASSIFIED Releasable
- (30) Buried Material
 Nothing Classified
 MSG P091530Z Mar 75 Declassifys Numbers
- (31) Demil General 65
 - (a) Trip Rpt Cmt 2 to Cmt 1
 Regrade to UNCLASSIFIED
 - (b) LTR, 24 Dec 64, Impact of Military Personnel Shortages - Regrade to UNCLASSIFIED
 - (c) LTR, 10 Nov 64, Request for Stablization of TS Site Format Regrade to UNCLASSIFIED
 - (d) MFR, 9 Nov 64 Cost Reduction Regrade to UNCLASSIFIED
 - (e) DF, 5 Oct 64, Management Survey Regrade to UNCLASSIFIED
 - (f) LTR & 6 Ind, 24 Sep 64, Authorization to wear Civilian Clothing
 - (g) LTR, 15 Jun 64, Report for Deviations to Mil Std.
 - Regrade to UNCLASSIFIED
 - (h) MFR, No date
 Regrade to UNCLASSIFIED
 - (i) LTR & 3 Ind, EM Civilian Clothing Allowance Regrade to UNCLASSIFIED
 - (j) MFR for CO, TX Production, Procurement, Storage
 & Survelliance, 3 Mar 64
 Regrade to UNCLASSIFIED
 - (k) DF, 15 Oct 63, Security Inspection Trip Proj TX.
 Regrade to UNCLASSIFIED

- (1) LTR, 23 Jul 63, Security Guidance TX Proj.
 Regrade to UNCLASSIFIED
- (m) MFR, 18 Mar 63, Opn of Site 6. Regrade to UNCLASSIFIED
- (n) LTR & 1st Ind, 5 Mar 63, Production TX Specs
 Regrade to UNCLASSIFIED
- (o) LTR, 15 Feb 1963, Security Plan TX Project
 Retain Classification
- (p) LTR, 28 Jun 63, Opn of Site 6 Regrade to UNCLASSIFIED
- (q) LTR, 20 Jun 62, Program, Rpt. Special Project
 Regrade to UNCLASSIFIED
- (r) LTR, 30 Apr 62, Allowances for Spec Proj Pers
 Regrade to UNCLASSIFIED
- (s) LTR, 12 Apr 62, TDY & Medical Care for Classified Program.
 Regrade to UNCLASSIFIED
- (t) Proj Order Manufacture of TX Regrade to UNCLASSIFIED
- (32) Final Rept Info Site 1.
 UNCLASSIFIED
- (33) Draft EIS
 UNCLASSIFIED
 (Enclosure 10, not attached, is Classified)

CLASSIFIED DRAWINGS IN VAULT - ROOM 126 - RMA

- 1. Warehouse Area.
 Bldg 1611
 Communication Center details and wiring drawings
 Drawing E4-611-7, 18 Mar 70
 Classified CONFIDENTIAL RETAIN
- 2. Administration Area Classified CONFIDENTIAL RETAIN Bldg 111-141
 Security Alarm System & Electrical Wiring details.
 Drawing E4-111-4U, 19 Mar 76

Classified Drawings in Vault Room 113 - Comptroller Area
Drawings are Classified RESTRICTED (old security designation
equivalent now to CONFIDENTIAL) - Storage Area
Numerous drawings
Remains Classified and should not be released
Possibly need a complete listing,

ATTENDED TO A STATE OF THE PARTY OF THE PART

44049111

Vault Rm. No 215, Unclassified Drawings, 1501 1601 # Flance Heat,

- 1. Complete Listing of all drawings available for North France
- 2. Individual drawings were originally classified as 346,447, but were regraded to Unclassified by automatic regraded to Enclassified by automatic regraded for compliance 1.
- 3. The documents were regraded from Secret to CONFIDENTIAL CONFIDENTIA
- 4. Drawings are so detailed, it is possible that a plant could be made from the total set of drawings. The drawings size, dimensions and type of material of construction.
- 5. Review of drawing DEF 37-05-51, Sheet 19 of 39, 666 3-12-57

 Drawing provides engineering details of process flow for the and manufacture of GB.
- 6. Review of Drawing 37-05-51 (Sheet 28 of 698) 9-17-51, 168
 Bldg 501, Steps IV & V. Piping Utility Flow Magram.
 - This drawing had Security Notices but was not marked for classification. Shows pipe sizing, material of construction & flow of materials.
- 7. Review of Drawing 37-05-51 (Sheet 39 of 39) 5-4-51, 100 500 500 500 Bldg. 501 Process Flow Diagram. Sheet 4 of 4.
 - This drawing was originally classified SECRET-ESCALING automatic, as noted above.
 - Shows Process treating Tanks, recovery Stills, and special filters in detail with chemical sewer line connections.
- 8. Review of Drawing No. 37-05-57 (Sheet 90-522), 10-24-31, 10-24-31, Bldg 601 Piping Utility Flow Diagram.
 - This is a drawing of LAP lines. Details are so fine that the process & sizing gives capacity & number of fill lines. Shows sizes of sections needed for equipment. Contains security caveat but no classification stamp.

- 9. Review No. 37-05-51 (Sheet 37 of 39) 5-4-51, IOP Bldg 501 Step IV Process flow Diagram. (Sheet 3 of 4).
 - This drawing was originally classified SECRET and regraded successively by DOD Directive as above. Shows capacity of agent production with precursor requirements, HF vaporizer system, reactor construction, and holding tanks.
- 10. Review of Drawing No. 37-05-51 (Sheet 36 of 39) 5-4-51. IOP Step IV Bldg 501, Process Flow Diagram (3 of 4). Same as 9 but different line. Originally classified as SECRET.
- 11. Review of Drawing No. 37-05-51 (Sheet 16 of 39) IOP Bldg 501, Step V. Piping elevations & section sheet #6, 4-7-51, Contains Title 18 Caveat. Not stamped for classification.
- 12. Review of Drawing No. 37-05-51 (Sheet 9 of 59), IOP Bldg
 No. 501, Step V, Pipe Composite Arrangement Plan. Sheet 7.
 Contains title 18 Caveat. No classification stamp.
- 13. Review of Drawing No. 37-05-51 (Sheet 6) Ibid
- 14. Review of Drawing No. 37-05-51 (Sheet 5) Ibid
- 15. Review of Drawing No. 37-05-51 (Sheet 4) Ibid
- 16. Review of Drawing No. 37-05-51 (Sheet 3) Ibid
- 17. Review of Drawing No. 37-05-51 (Sheet 2) Ibid
- 18. Review of Drawing No. 37-05-51 (Sheet 1) Ibid
- 19. Review of Drawing No. 37-05-51, Sheet 13 of 39, 10P Bldg No. 501, Step V. Piping Elevations & Sections, Sheet 3, 4-7-51.
- 20. Review of Drawing No. 37-05-51, Sheet 12 of 39, IOP Bldg 501, Step IV. Piping Elevations & Sections, Sheet #2.
- 21. Review of Drawing No. 37-05-51, Sheet 12 of 39, IOP Bldg 501, Step IV. Piping Elevations & Sections, Sheet #1.
- 22. Review of Drawing DEF 37-05-51, Sheet 14 of 39, IOP Bldg 501 Step V. Piping Elevations & Sections Sheet #4.
- 23. Reviw of Drawing DEF 37-05-51, Sheet 199 of 698, IOP, Bldg 501, 502, 503, 506, 601, 603, 606, & 710 Instrument Schematic Arrangement, Health Monitoring & Process Monitoring Sheet No. 1.

85-07-23

- Describes placement, sizing, material requirements for alarms, sensors and electrical power requirements for Control

Special Note for REB.

Although each individual drawing is currently unclassified by instructions contained in DODI 5200.1 and were regraded unclassified on 22 June 1965 (14 years after the fact) on an automatic basis as prescribed, (Category IV) and regraded to lower classification, after 3 years and finally declassified after 12 years; the compilation of all drawings would in effect provide terrorists or third world nations excruciating details on how to build an agent producting plant, sizing requirements, materials of construction, specialized equipment needed for the process, and sufficient information to provide capacity scale-up or scaledown and therefore should be classified SECRET by compilation and not released as a total package.

Review of specific drawings can be authorized but assembling all drawings as a unit should not be authorized. Authority for classification by compilation is paragraph 2-211, AR380-5, and AR380-86 paragraph 3, Table I and paragraph C.

NOTE: Master Index to all concerned drawings in vault is maintained in RMA Engineering Section under the control of Mr. Garland Gunter, Chief, Engineering Plans & Services (Ext. 167).

85-07-24

Box Labeled 228-10 Installation Historical File (1951-1952).

Folder - Historical Reports Jan - June 52 (Marked RESTRICTED Secret Information, partially).

- Cannot be released -- Operations Division
- Contains production figures for H

Folder - History of RMA, 1 July - 30 Sep 52 (Marked RESTRICTED Information, partially).

- Cannot be released -- Operations Division
- Contains production figures for H

Folder - Quarterly Historical Report - 1 April - 30 June 1952.

- Cannot be released -- Operations Division
- Contains production figures for H

Folder History of RMA - 1 Oct - 31 Dec 1952 (Marked RESTRICTED in Part).

- Cannot be released -- Operations Division
- Contains production figures for H

Folder - Original Copies, Unit Historical Files - 1 Oct -31 Dec 1952 (RESTRICTED)

- Cannot be released
- Production figures for H should be marked RESTRICTED-Security Information.
- Contains production figures for H

Folder - Labeled 206-09 Installation History - 1 Apr 59 -30 June 59

- Not classified
- May be released

Folder - Labeled 206-09 Installation History - 1 Jan 59 -

- Not classified
- May be released

Folder - Labeled Monthly Division of History Reports 1 Jan-30

- Not classified
- May be released

Folder - Labeled 206-09 Installation History - 1 July -30 Sep 59.

- Not classified
- May be released

Folder - Labeled Historical Reports - Jul - Dec 1951

- Not Releasable
- Should be marked RESTRICTED-Security Information.
- Contains production and fill data on H.

Folder - Labeled Monthly Division History Report 1 July-31 Dec 51.

- Not releaseable.
- Should be marked RESTRICTED Security Information.
- Contains production and fill data on H.

Folder - Labeled History Reports - Jan - Jun 1951.

- Not classified
- May be released
- 13. Folder Labeled 206-09 Installation History 1 Oct 31 Dec 59.
 - Not classified
 - May be released

DOCUMENTS.

85-07-24

In these boxes there is nothing SECRET in and of itself. However, cumulative information about H & GB stockpile NOTE: figures could be derived. Information should not be

CHEROLE BURE OF SHIPL STORY

FILMS

A. Rockrust

Silent Film - Classified SECRET
22 minutes
Print 5-59-64
Lab No. RA-175
Control No. 63 FDS-2899
1 of 2 Series A

Agent TX Production & Processing Details of planting requirements, temperature, pressure, sizing of operations, site identifiable. Retain Security Classification of SECRET but may be regraded to CONFIDENTIAL.

B. Calsite

Silent Film - Classified SECRET

22 minutes
S-146-64
Lab No. RA180
Control Number D64, FDS - 2047
1 Of 3
Soil preparation Operations
Plowing Operations
Discing Operations
Irrigation
M5 Harvesters
Packaging
Field Storage

Site Not Identified

Only field processing and no plant processing. Regrade to UNCLASSIFIED.

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A. Rockrust

F-1 85-07-24

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Silent Film - Classified SECRET 22 minutes Print 5-59-64 Lab No. RA-175 Control No. 63 FDS-2899 1 of 2 Series A

Agent TX Production & Processing Details of planting requirements, temperature, pressure, sizing of operations, site identifiable. Retain Security Classification of SECRET but may be regraded to

Calsite

Silent Film - Classified SECRET 22 minutes 8-146-64 Lab No. RA180 Control Number D64, FDS - 2047 Soil preparation Operations Plowing Operations Discing Operations Irrigation M5 Harvesters Packaging Field Storage

Site Not Identified

Only field processing and no plant processing. Regrade to UNCLASSIFIED.

SPECIAL NOTES: (Items not on List A or B found in box labeled "from DTO Mar 85"). 85-07-23

Folder 1. Binary Production Facility

- Not releasable
- No drawings are marked for Security, but folder is.

Folder 2. Rehab of GB Fac & Filling Lines

- This is the UNCLASSIFIED version of the Mar. 80 Report.
- This could be released to Shell.

Folder 3. Binary Production Facility No. 1

- Request Higher HQ for Regrading Instruction.
- Documents RMA originated can be regraded UNCLASSIFIED

Folder 4. Letter & Report, Chemical Munition Report., Jun 1980

- Retain as classified CONFIDENTIAL
- Shows deficiencies.

Folder 5. Final Report of Round Out of Sets B; 1 Dec 57 (Vol. I & Vol. II)

- Keep classified CONFIDENTIAL.
- Detailed Description of GB Process.

Folder 6. Report Manufacturing Proposal for XM867 Binary Munitions at RMA.

- Recommend regrade to UNCLASSIFIED.

Folder 7. Stockpile TX VU-Graphs - Retain SECRET classification.

- Not Releasable

85-07-23

polder 8. NOTE: Scanned How Historical Reports - They contain in general, production data and therefore should not be regrated. (This group was in Darlene's Safe). CONFIDENTIAL and SECRET. Reproduction and Stockpile data.

- 9. Reviewed other Historical Data marked RESTRICTED. Above applies.
 - Not Releasable

MEMORANDUM FOR COMMANDING OFFICER, RMA

SUBJECT: Engineering Drawings Associated with North Plants Area

- 1. On this date, I reviewed some 20 engineering drawings related to the North Plants Area vs representative samples of the total number of drawings () available.
- 2. Although each individual drawing is now unclassified (regrading action to unclassified was accomplished on 22 Jun 65 in accordance with DODD 5200.1), a compilation of all drawings would in effect provide more than adequate, in fact excruciating detail, information on how to build an agent-producing plant, sizing requirements, materials of construction, specialized equipment needed, and sufrequirements, materials of construction, specialized equipments. Based on ficient data to provide capacity scale-up or scale-down requirements. Based on the above information, I intend to recommend that the compilation of all of the engineering drawings related to the North Plants Area be classified SECRET.
- 3. It is therefore recommended that all drawings associated with the North Flants Area be moved from the unclassified storage vault room (No. 215) and be stored in the security vault room (No. 126) in Building III until reclassification action is completed.

4. You will be advised of actions taken.

ROBERT E. BOYLE

DAMO-NCC

HQ DA

CONCUR

NONCONCUR

CF:
Dir of Instl Svc
Chief, Fac Engr Div
Chief, Engr Plans & Svc

THREAT ASSESSMENT/POTENTIAL FOR ILLEGAL EXPORT/ COVERT TRANSFER OF TECHNOLOGY IN THE PETRO-CHEMICAL INDUSTRY COMPLEX

STRATEGIC/TACTICAL FOLLOW-UP REPORT

IRAQI ATTEMPTS TO SECURE COMPUTER, ELECTRONIC AND MILITARY EQUIPMENT OPERATIONS 1 ST QUARTER 1989

PREPARED FOR

KENNETH C. BRUMFIELD JACK M. BIGLER MARTIN SCHRAMM

DEPARTMENT OF THE TREASURY UNITED STATES CUSTOMS SERVICE SOUTHWEST REGION

PREPARED BY

ROBERT F. BICKEL, SR

DATE

MAY 20, 1990

STRATEGIC /TACTICAL FOLLOW UP REPORT

SUBJECT:

Assessment of attempts by operatives of the Iraqi government to secure equipment and materials related to the support of the Iraqi military complex during the first quarter of 1989 through agents operating in the Houston, Texas area and the potential relationship to ongoing activities with regard to current investigations.

OBJECTIVE:

This report is to evaluate the activities of individuals currently operating in the United States to secure and transport equipment that is strategic to the purposes of the Iraqi military agenda to destablize the political and military environment in their part of the world. These activities have been conducted since the first quarter of 1989 in the Houston area of the Southwest Region and are directly related to the events that are centered around seizures of atomic triggering devices and equipment purported to be oil field pipeline equipment at ports in europe.

It is the intent of this assessment to draw these operations conducted in this region and on the west coast together as part of an overall plan of operation by the Iraqi Government and their agents to build equipment capable of delivering nuclear capability projectiles to other nations in their geographic region.

HISTORICAL BACKGROUND:

Early in the first quarter of 1989 Mr. Tony Harden of Southern Brokers, Inc. was contacted by representatives of the Iraqi Government and asked to act as an agent to secure highly sophisticated equipment contained in a multi-paged list that was subsequently furnished to him. Mr. Harden contacted Robert F. Bickel, Sr. to act as a Technical Consultant in determining the nature of the equipment and to establish the validity of the specifications contained in the equipment list.

At the first meeting with the Iraqi representatives it was established that the equipment they sought to secure was passably on the State Department controlled export listing or would be under the conditions that it was going to be shipped into Iraqi ports, also discussed was the fact that upon the most cursory examination most of the equipment would probably because of its nature have military nomenclature numbers. The senior Iraqi representative Shabir Al Fasali stated that obtaining the equipment was the first

consideration and that he and his associates would handle the export documentation although they might need our assistance in some instances. At the end of the meeting it was asked that all attempts be made to secure catalogues and technical specification sheets on each item or group of items on the list, of specific consideration was the necessity for clarification of some specific technical information that would be needed to obtain critical pricing information. It was decided that a list of all information required should be prepared so that it could be sent by telex to Baghdad, ultimately two separate lists of questions were prepared because the equipment was being acquired for individuals who appeared to be in charge of separate segments of the operation that the equipment was to be acquired for. These lists were prepared by Bickel and Fasali at a subsequent meeting later in the week after some time had been had to evaluate the listing of the equipment.

Within hours of this first meeting and having the opportunity to evaluate equipment and the obvious intent of the Iraqi representatives Bickel contacted Ken Brumfield at the U. S. Customs Service offices in Laredo, Texas and apprised him of the situation and discussed the potentials for what subsequent actions should be taken. Arrangements were made to co-ordinate the intelligence gathered from the first meeting, prepare a summary and Fax it to his office as formal notification that a contact had been made. As the meetings with Al Fazali continued agent Jack Moore was brought into the project as a contact and to facilitate evaluation of the information obtained.

Summaries of each meeting and copies of all telex were prepared and Faxed to Ken Brumfield and Jack Moore jointly at the San Antonio office of Customs. All information secured on the primary participants in this project were detailed and are a part of the file including all participants, telephone numbers, addresses, bank information and the names and addresses of individuals who were implicated as participants domestically but were not made available at any meetings.

At the time due to the type of information furnished on the equipment to be acquired the following was determined:

- * The equipment was of a sensitive technological nature that would be subject to export control.
- * The only application of this equipment would be for military purposes, passably in rebuilding equipment captured during the Iran/Iraq War.
- * There was an interest at high levels within the Iraqi military in this equipment due to the rank of the individuals that we were communicating with by telex at two separate facilities to secure answers to technical questions that would relate to the configuration of the equipment to be ordered.

- * None of the Equipment had a delivery date of less than 6-9 months from the date it was ordered.
- * In several instances the initial order for the equipment would require State Department clearance for the order to be initiated.
- * Much of the equipment had limitations placed on it as to destination stipulated at point of origin.

The complete file on this operation and all information gained during contacts with Al Fazali would be better evaluated in its entirety. In view of recent events much of what was transpiring in the attempts to secure the equipment listed in the files was misinterpreted at that time because of the limited scope of intellegence then at hand.

The contact with the Iraqi representatives was finally broken off due to the following:

- * There was no ongoing support of the project from the control agent that was taking the reports and there was not an apparent level of interest to warrant pursuing the contact even though it was encouraged by Moore. To be fair it should be noted that there were several high intensity operations actively being pursued in the region that drained personnel and resources.
- * Co-ordination was impossible with the suppliers without agency intervention due to the sensitivity of the equipment being pursued.
- * A personal decision was made (by Bickel) that without active participation on the part of the agency there was a very real potential to be caught in a cross fire between agencies or with the Iraqi representatives, Al Fazali purported himself to be a graduate of Michigan State University in nuclear engineering but had all of the personal attributes and behavior characteristics of Iraqi Secret Service or some associated group. The personal exposure under these circumstances without co-ordination and quidance within the agency was an unacceptable risk.

After the contact was broken off Al Fazali was seen by Bickel on several occasions at Houston's Restaurant on Westheimer at Fondren usually seated in the first booth against the outside wall in the bar area in conversations with associates who he had mentioned at different times each of these individuals are documented in the reports filed with Jack Moore. It should be noted that on at least two occasions he was in the company of Ian Smalley. Smalley is known for his activities and in looking back was probably involved in guiding and advising the Iraqi representatives. This is of interest in light of the type of equipment that the Iraqis were attempting to acquire at that time and the events that have transpired within the last 60 days.

CURRENT ACTIVITIES:

Events reported on the NBC News by Tom Brokaw, Sunday, May 20, 1990 activities of the last 18 months and the potential for the original contacts made with Al Fazali to be directly related is in a probability category approaching 100%.

Over a period of 60 - 90 days there have been significant events and seizures of equipment in two european ports of equipment that are a part of a much larger supply of equipment that when assembled at their final destination would have presented a significant threat to the security of nations in the region around Iraq.

- * The developer of the "Super Guns" developed for the United States Military, Mr. Bull, was fatally shot outside his apartment in Brussels, Belgium eight weeks ago after having converted his weapons system to nuclear capability (this was actually achieved during the 1950's) and agreeing to build it for King Hussein and the Iraqi Military.
- * A shipment of nuclear triggers was seized at Heathrow Airport in London, England in trans shipment from the United States on a libyan Airliner. These devices are passably modified oil field equipment intended for downhole geologic surveys in drilling and exploration. In examining the film pictures from the news the crate that they were in would closely approximate the length that this type of Pulsed Neutron Generators would require for shipment and studying the dimensions of width and depth there were either eight or ten devices in the crate.
- * The "oilfield tubulars" seized at another Port in europe were also shown in this same newscast. There is no known use for a tubular product on a pipeline that would require the wall thickness that is represented in the sections of pipe that were shown. It is also interesting that the flanges were added at the point of origin and would present a serious problem in shipment this presents that they were only there for subterfuge. In studying the segments shown in the news film it would appear that enough segments of the pipe were being shipped to produce no less than three gun barrels for one of the "Super Guns". The flanges would be machined or cut off at their destination and assembly point and the segments of the barrel would be welded with special equipment (there are only three countries that produce equipment that could produce this type of weld Japan, Germany and the U. S.)
- * Copper Casings were seized at a French port that were determined to be for the shells for the projectiles of the weapon system. They are in fact probably the outer jacket for the projectiles due to the malleable nature of the metal and the tremendous concussion of the weapon being fired. This would require more study no pictures were shown of this.

The potential is more than plausible that Smalley was acting to help coordinate the components acquisition on behalf of Bull who had been a long standing associate in the arms trade. There may be information in the file that will tie Al Fazali to Smalley through telephone tolls if that was approached at the time, also other associates whose telephone numbers are contained in the reports should be cross referenced for the same purposes.

The file built during the time that contact was maintained with Al Fazali should be considered a source of original information with regard to the current investigation of the activities of the Iraqi Government and its agents. The intelligence contained in the file will support with dates and times the involvement of no less than six Iraqi nationals and would implicate others operating as agents of a foreign government under statutory requirements and criminal penalty.

The ability to identify potential suppliers of other cross technology components of the weapons system would be of importance even though those components might already be in the assembly area. A study of any information available on the entire system or even pictures and a description of the operations of the systems would assist greatly in determining the availability of the components and from what sources they might be acquired using engineering evaluation guidelines.

* In an interview segment Ian Smalley stated that "if the intent of this equipment was such that it was to be used to build a "Super Gun" for the purpose of launching nuclear projectiles the project died with Mr. Bull when he was shot". This is very doubtful in that the circumstances of planning and logistics would dictate that during the last 18 months documentation would have had to been needed equipment in suitably disguised form.

These are the missing pieces to the puzzle presented in the news broadcast by NBC. Tom Brokaw pointed out proudly that their aborted occasions of months of investigative reporting, many of the meetings between some of the main players who have conspired weapon system, securing an interview with the Ian Smalley in his Houston Penthouse.

The capability to secure the entire operation and a large number of the participants including the principals and to identify significant manufacturers who have supplied components for this system is very real at this time. Using equipment suppliers from cross technology sources is central to the ability for this weapons system or any other to be constructed.

CONCLUSION:

As was pointed out above there was some confusion as to the intended uses of the equipment that the Iraqi group was attempting to acquire during the first quarter of 1989. After the recent events have surfaced even a cursory check of the equipment list that the Iraqis presented will show that the development and final construction of the weapons system and the sub-systems required to operate the "Super Gun" on a nuclear delivery capacity could not have been achieved without the items on that list. Scientific monitoring for final assembly and the communications requirements are related to the numbers of items that are specified on the original list. The attempt to secure this equipment is one of the few segments of the system that cannot be acquired by use of cross technology transfer applications due to the specialized nature of some of the individual pieces needed test the components in the latter stages of assembly.

This contact by the Iraqis was only a part of an overall coordinated plan to secure the components needed under any covert means necessary to build a complete weapons system even though it had to be acquired and constructed over a long period of time so that the whole project might not be jeopardized.

The association of Ian Smalley at that time with Al Fazali is significant in that it provides the appearance of complicity at a time when the Iraqi shopping list was actively being pursued and related equipment would have been a concern on the part of Smalley.

CONFIDENTIAL DOCUMENT

THREAT ASSESSMENT/POTENTIAL FOR
ILLEGAL/COVERT TRANSFER
OF TECHNOLOGY IN THE
PETRO-CHEMICAL INDUSTRIAL COMPLEX

PREPARED FOR

DEPARTMENT OF THE TREASURY

U. S. CUSTOMS SERVICE

SOUTHWEST REGION

Prepared by:

Robert F. Bickel, Sr.

THREAT ASSESSMENT /POTENTIAL FOR ILLEGAL/COVERT TRANSFER OF TECHNOLOGY IN THE PETRO-CHEMICAL INDUSTRIAL COMPLEX

SUBJECT:

Potential alternative uses of currently available industry technology for conversion to strategic or defensive systems by host countries or other foreign entities or individuals.

OBJECTIVE:

To identify specific areas of Petro-Chemical industry technology where current export classification allows ready access to equipment and technology that would allow an inordinant degree of potential for conversion from the primary design criteria to secondary usage by other nations in areas of strategic weapons (overt or covert) and defence advantage for military or terroristic usage.

POTENTIAL:

Recent international incidents have been examples of the broad range of potentially strategic industry technology that is readily available to foreign nations, technology and equipment that could represent the potential for inadvertent or covert abilities for conversion of High Technology Designs and Equipment to be adapted to military or terroristic uses that would not be in the best interest of the United States and its allies.

A specific case in point is that it is relatively easy for Radio Active Sources in various aspects of oil & gas exploration equipment to be altered or modified for use as Atomic Triggering Devices. This has been known openly for at least 15 years within some informed segments of the industry. Between 1973 and 1975 several simple designs for a thermonuclear device were worked out using containers the size of a standards 55 gallon drum for camouflage purposes, the triggering device and power supply were suspended in the center. The design allowed for fissionable material to be encased in the space between an inner cylinder and the outer casing. The design was somewhat crude but simple and effective for disguise and transportation purposes. For this particular design a Gamma-Ray Neutron tool commonly used in the most basic suites of evaluation logs run on exploration and completion jobs was selected as the triggering device, the tool is readily available in any district for the major logging companies both domestically and internationally.

In recent years advancement in the areas of electronics miniaturization and computer systems has increased the number and type of radioactive sources used for an increasing number of evaluation logs that generates a wide range of information. This

does not however lessen the potential for the use of this equipment in an altered form for military or terroristic purposes. In fact the potential exists for significant technological advances to be available to the most bankrupt of countries if the opportunity presents itself to acquire equipment for evaluation in a state run laboratory as happens in Mexico and other segments of the third world. Modeling their technology acquisition format after the Japanese the Pemex Lab on Navigation in Mexico City regularly acquires equipment that is dismantled and documented in the most minute detail. This has been going on since the early 1970's and before, in a dedicated facility within their complex that is a three story section of the main laboratory.

It is also widely accepted that as a matter of developing bargaining power with other nations all of the information that is derived form these evaluations is available for a price on the open market. While it is easy to acquire, dismantle, evaluate and document the designs of this equipment the technology does not exist in more than maybe two countries in the world to duplicate the equipment in a reliable operational form, the United States being the primary source. Aside from the computer industry the Petro-chemical and related process industries offer the most prolific supply for any nation or organization to develop a High-Tech Shopping List and with a few good sources and a reasonable front operation acquire anything desired that could feasibly be converted for uses beyond their initial design purpose. The potential nuclear threat being the most serious there are other areas that pose serious long term potential for acquisition and conversion to military, terroristic or covert use to enhance the capabilities of technically deprived nations.

There are very few lines of open communication across the industry as a whole. Various segments of the industry see themselves as autonomous in the use of the sciences, engineering design and fabrication. Due to this attitude the Petro-Chemical Industry is broken up into segments that can be defined for operational purposes as follows:

OIL & GAS

EXPLORATION:

Geology and Seismology involving communications, computer enhancement and assessment, satellite survey capabilities and very specific land and oceanographic seismology that incorporates some equipment that can with little or no effort be used for weapons applications and submarine tracking technology.

DRILLING AND COMPLETION:

Most obvious here we have already addressed, the wide range of nuclear sources and devices readily available. This equipment is wide spread and so prolific that each company that maintains an operations district or region has essentially the same

capability with minor differences in tool design. There are approximately 12 separate service oriented companies with the most sophisticated field capabilities and highly advanced laboratory facilities developing equipment in categories that have cross-technology capabilities. The equipment is so common place that radioactive material and equipment with nuclear source generating capability is transported in open vehicles currently in the state of Texas and other oil and gas producing states.

Also in wide use within the service industry is computer controlled telemetry and process equipment that provides access to electronics, miniaturization, computerized controls and specific heat and pressure sensitive components in areas of electronic and composite materials (these same materials are used in the fields of aeronautics). Often the intricacy of the designs of this equipment is such that very sophisticated devices or electronic are imbedded in the design matrix at a depth where it wouldn't be particularly noticeable or of any apparent significance.

In the offshore areas the use of submersibles is extreamly wide in pipeline and production facility construction and inspection work. This provides access to the entire range of composite materials advancements, remote operations computerization and telemetry, robotics, metallurgy, and the necessity of high pressure lubricants. Each of these areas are directly related to the operations of the United States Navy Submarine Fleet. This area alone is advancing at such a rate technologically that the range of information available from any facility or organization involved in the development of new equipment and procedures is sometimes ahead of the ability to incorporate it into current working technology.

PRODUCTION:

Production equipment is nothing more than a scaled down version of refining equipment for a very limited range of usage. With some small modifications the typical production unit for a gas production location can produce a wide range of product stream that depending upon the purpose of the operation can be anything form pharmaceutical grade drugs to poison gas for military purposes.

It is possible to scale down a production system such that the normal time that a drug lab takes to cook anything from meth-amphetamine to crack or smokable heroine and ice can be produced in 1/6 th the time in higher quantities by simple manipulation of temperature and pressure. The formulation of the chemical components in the feedstock stream for these systems is subject to nothing more than simple chemistry and physics, residence time, order of chemical constituent injection, pressure and temperature.

In recent years advances have been made using other areas of the industry as a model. Remote monitoring of locations and facilities has been adapted for economy measures involving

computerized controls, systematic poling of production stream conditions from the wellhead through the production unit, metering of satellite gathering systems and pipeline interchange points including compressor facilities.

Metallurgy and chemical treatment for inhibition of corrosion and have been significantly affected due to production in areas where various constituents of the production stream were highly corrosive or potentially hazardous to personnel or the environment. Much of the research in this area has been not only chemical but biologic in nature.

PIPELINE AND GAS TRANSMISSION

The most advanced technology currently being used in this area addresses many of the same functions mentioned above computerized telemetry, remote operations for areas not readily accessible on normal basis, monitoring of functions and switching of controls by remote telemetry. Also the gas turbine systems and the controls in use at these facilities are highly adaptable for any purpose. The turbines themselves involve the latest in metallurgy (often they are nothing more than a modified aircraft turbine as is used in the military and commercial fields, specifically the Pratt-Whitney turbine system used in the United States Military Strategic Helicopters manufactured by Bell-Textron. One organization Commercial Helicopters Inc. of Lafayette, La. operated not only a flight service organization but also had a licensed Bell Maintenance Station that allowed them to completely rebuild any helicopter manufactured by Bell-Textron in their facility, they also operated Commercial Turbine Inc., specifically for the Oil & Gas Industry, the turbine power plants for the helicopters or the gas transmission and processing systems were the same units and were totally interchangeable with minor modifications.

There are many other examples that present some very interesting potential for investigation. One is that the remote site computer systems used for pipeline relay stations and telemetry systems are the same units used in every military application for high impact rack mount specification from submarines to aircraft and radar systems, satellite relay systems are used over and over again to control remote compression and interchange system (each of these systems has a corresponding military nomenclature number even though it is a civilian application system under another name).

PETRO-CHEMICAL REFINING AND CHEMICAL PROCESSING

At this time this area offers the highest potential overall for technology transfer violations on a systems and subsystems basis with ramifications at least as serious as those presented by the nuclear source materials although with a longer range of effects that would only be seen over a period of years. The nature of refining and chemical processing on an international

basis is such that globally a necessity for finished products is being brought to a head because of economics, the population explosion and the politics of feeding and providing a productive environment for severely disadvantaged third world nations. Here sometimes political expediency and manipulation by the companies providing the designs fabrication and construction of the facilities shortstop effective evaluation of the systems or subsystems that make up an entire plant and as in other instances that often clouds the true cross technology utility issue. A major consideration for these facilities is the shortage of trainable or teachable national personnel, this requires that entire systems and plants be designed to utilize the fewest technicians possible.

These facilities provide tremendous opportunity for the offhanded export of technology that might not otherwise be considered overly important. Just as in the scenario with Mexico we must consider the status of the industrial complex in the Eastern Block. Literally all of the industrial complex of Eastern Europe has for fifty years plus been dedicated to the military complex, the manufacturing facilities there are also at least that old and no modernization has been utilized, advanced technology as it is employed by the United States does not exist on a large scale. Thus the Eastern Block Nations become an inadvertent secondary market for the designs and technology if not the actual equipment.

The Petro-Chemical Refining Plants are essentially a function of residence time in the system, temperature and chemical catalysts. These are an essential given for any refining process, the catch is that all of these systems are operated by COMPUTERIZED AUTOMATED CONTROLS for accuracy and monitoring of process. These controls are adaptable to any manufacturing or process systems application with only a moderate amount of reprogramming or the system can be fully adapted to another process by writing a task specific program. The AUTOMATED CONTROL EQUIPMENT itself is a primary target of great value that would accelerate the ability of any nation deficient in this technology to make significant advances in their industrial and military complexes. This area of technology involves not only automation through computerization but also the use of the newest high-speed math co-processors on the market to keep up with the continuous load of functions that any automated system is required to monitor, calculate and adjust in a process system operation. These systems are also the same computer circuits that compile co-ordinate and plot target viability for air-to-air and surface-to-air radar guidance systems for the United States Military. Currently available circuit boards that can be bought over the counter in Houston and most other cities with a good supply of computer vendors also provide the ability to alter the primary function of the system to any desired application. Specific chips may be purchased at several locations here that would provide an individual with the highest and most advanced systems.

Chemical processing plants involve the same automation systems as Petro-Chemical Refining Plants but are more task specific with the ability to be altered or modified for specific compounds that are to be blended. The key here is that these chemical process systems may be altered within a given category to use a different primary chemical constituency to manufacture any number of chemical compounds and may easily operate within the range of producing military application compounds after a relatively short change over from agricultural or pharmaceutical. In many instances the base equipment is not distinguishable as to the ultimate intent until an indepth analysis of the system and the feed stock constituents is evaluated (a primary example is the Libyan plant constructed by Germany).

There is also a significant situation that is not directly related to technology transfer but of importance in the area of manufacture of illegal drugs. Within the Southwest region alone there are approximately 11 facilities that produce the precursor and primary chemicals required for the processing of cocaine and other illegal drugs in that category. These facilities manufacture these chemicals as a primary resource for other industries where they are a legitimate need although there is the ability for these chemicals to be diverted through various means to make them available for the manufacture of illegal drugs. There are also several smaller facilities that produce these chemicals as a by product of their primary product stream, these smaller quantities are not tracked as rigidly as the larger streams because they are considered a waste product and are therefore potentially more accessible as a supply for those who would otherwise be faced with securing quantities from legitimate suppliers and then falsifying documentation to ship it out of the country.

CONCLUSION:

Although these areas cover a seemingly wide and diverse range of equipment only the applications are to the extreme, the equipment and technology itself is essentially the same. There are "specialty" designers and manufacturers that are specific to various segments of the industry but by and large the primary equipment we are concerned with here is in the following categories:

ELECTRONICS
HIGH SPEED CHIP DESIGN
COMPUTERIZATION
COMPUTER AUTOMATION SYSTEMS
TELEMETRY AND COMMUNICATIONS SYSTEMS

RADIOACTIVE SOURCE MATERIALS
ELECTRONIC NUCLEAR SOURCE GENERATORS

ROBOTICS
METALLURGY
COMPOSITE MATERIALS TECHNOLOGY

These areas of technical equipment advancement and manufacture are lead by companies in the United States, the field is really much broader than one might imagine limited only by the desired outcome for usage and application.

PROPOSAL:

An obvious solution to part of the problem is to develop a system whereby the equipment keeps up with the equipment, a STRATEGIC MATERIALS COMPUTER DATABASE that allows for management of information on various categories. This would require a knowledge of industry resources for the information, information is readily available but the sensitive information would require inside sources at each company being evaluated. Some companies systematically bypass accepted disclosure requirements to downplay the type and possible uses of equipment knowing the potential for conversion to other uses, this is largely an economic justification by management who make an acceptable risk evaluation to secure the bottom line. Then there is always one individual who will make an acceptable risk evaluation for their personal gain, this type of offer is not uncommon, and the money offered will generally get the attention of the standard head of household with 2.3 kids and a dog who is facing house notes, car payments and college tuition.

An example of this would be as in the situation with the RADIO ACTIVE MATERIALS AND NUCLEAR GENERATING DEVICES, the prerequisite information could be gathered in any number of ways and entered into the database for retrieval for example in the following manner:

by Domestic Manufacturer

by Domestic and Foreign Company User

by Domestic and Foreign Company Operations Region

by Client Country for Foreign Application

by projected rig count

by projected well density

by projected tool run requirements

by logistics requirements by utilization evaluation

by Tool Type (radio active or Nuclear Generator)

by Component Parts Identification

by Quantity

manufactured

in storage

shipped (domestic and foreign)

in use (domestic and foreign)

This is an illustration of a simple information system to serve the purpose of identifying where this equipment originates, the sources of this information are much more complex and would involve gathering intelligence from no less than 10 primary source companies. A system of this type would be industry specific but also have the capacity to be cross referenced inter-relational with similar information data bases for where necessary. Ultimately information would be generated to provide an assessment of the

chemical processing plants involve the same automation systems as Petro-Chemical Refining Plants but are more task compounds that are to be blended. The key here is that these chemical process systems may be altered within a given category to use a different primary chemical constituency to manufacture any number of chemical compounds and may easily operate within the range of producing military application compounds after a relatively short change over from agricultural or pharmaceutical. In many instances the base equipment is not distinguishable as to the ultimate intent until an indepth analysis of the system and the feed stock constituents is evaluated (a primary example is the Libyan plant constructed by Germany).

There is also a significant situation that is not directly related to technology transfer but of importance in the area of manufacture of illegal drugs. Within the Southwest region alone there are approximately 11 facilities that produce the precursor and primary chemicals required for the processing of cocaine and other illegal drugs in that category. These facilities manufacture these chemicals as a primary resource for other industries where they are a legitimate need although there is the ability for these chemicals to be diverted through various means to make them available for the manufacture of illegal drugs. There are also several smaller facilities that produce these chemicals as a by product of their primary product stream, these smaller quantities are not tracked as rigidly as the larger streams because they are considered a waste product and are therefore potentially more accessible as a supply for those who would otherwise be faced with securing quantities from legitimate suppliers and then falsifying documentation to ship it out of the country.

CONCLUSION:

Although these areas cover a seemingly wide and diverse range of equipment only the applications are to the extreme, the equipment and technology itself is essentially the same. There are "specialty" designers and manufacturers that are specific to various segments of the industry but by and large the primary equipment we are concerned with here is in the following categories:

ELECTRONICS
HIGH SPEED CHIP DESIGN
COMPUTERIZATION
COMPUTER AUTOMATION SYSTEMS
TELEMETRY AND COMMUNICATIONS SYSTEMS

RADIOACTIVE SOURCE MATERIALS ELECTRONIC NUCLEAR SOURCE GENERATORS

ROBOTICS
METALLURGY
COMPOSITE MATERIALS TECHNOLOGY

These areas of technical equipment advancement and manufacture are lead by companies in the United States, the field is really much broader than one might imagine limited only by the desired outcome for usage and application.

PROPOSAL:

An obvious solution to part of the problem is to develop a system whereby the equipment keeps up with the equipment, a STRATEGIC MATERIALS COMPUTER DATABASE that allows for management of information on various categories. This would require a knowledge of industry resources for the information, information is readily available but the sensitive information would require inside sources at each company being evaluated. Some companies systematically bypass accepted disclosure requirements to downplay the type and possible uses of equipment knowing the potential for conversion to other uses, this is largely an economic justification by management who make an acceptable risk evaluation to secure the bottom line. Then there is always one individual who will make an acceptable risk evaluation for their personal gain, this type of offer is not uncommon, and the money offered will generally get the attention of the standard head of household with 2.3 kids and a dog who is facing house notes, car payments and college tuition.

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total number of nuclear sources domestically or to develop the information that shows how many areas of the world outside of the United States where inordinate numbers of these items are stored with little or no apparent reason. As a model this information data base would be capable of being adapted for utilization on a fully application tracking in any other category of cross technology fabrication allowing a high degree of flexibility for assessment or analysis

The development of nuclear capability in some of the smaller nations has been accomplished by utilizing design modifications of the equipment discussed here. In the United States alone there have been substantial quantities of fissionable quality materials "misplaced" from some of the primary plants that produce plutonium and U-235 as a by product of their primary function. The countries in the Persian Gulf area have had access to the devices in question since the 1950's, and they now have a significant population educated in our universities and trained in their own oil industry to recognize the potential of this equipment and do something with it. Isreal, Lybia, India and Pakistan are good examples of this technology modification systems for their nuclear capabilities.

Currently equipment is manufactured in two configurations for specifics areas of operation, onshore tools are 4-5 inches in diameter and offshore tools are 2-3 inches in diameter to conserve weight in transport, the offshore tools are used internationally also because of ease of transport being much smaller.

ADVANTAGE:

When looked at from an overview perspective all that is generally seen of these various segments of the Petro-Chemical Industry is advanced systems that quickly boggle the mind of those who are not familiar with what is being attempted or achieved whether it be with electronics, computers, automation, refining of petrochemical products or recombinant chemical production. There is always a process at the core of any activity that is generally very simple but uses high-tech to accomplish the end result. The parts of this process are interchangeable across a wide variety of areas of desired outcome, therefor the technology is totally transferable from one process to another sometimes involving only moderate modification or alteration of the available equipment. With the proposed approach we back up to the categories of physics (theoretical, applied and nuclear), engineering and design, chemistry (organic and in-organic), manufacture and fabrication. There is a narrow reference of originating technology and primary resources to acquire any of this equipment or technology. With that understanding it is relatively easy to develop an evaluation and analysis model that would facilitate and greatly enhance the ability to monitor the utilization of sensitive technology. This model would be easily adaptable to any desirable cross technology transfer category and capable of being expanded to accommodate any number of primary or secondary vendors.

considered from this perspective, analysis and evaluation can approached from a very direct model of how violations would be best and easiest to perpetrate:

- * What is the intent? (what area is equipment or technology needed for primary gain)
- * What is required? (what equipment is needed to produce or achieve the specific goal)
- * What is available? (what equipment or technology is currently available that is suited to conversion or modification)

Add to this the potential for from where solicitations of possible violations might be initiated, and the degree of difficulty and exposure that might be acceptable. This criteria might appear as follows:

- * Who wants what? (List by foreign country or entity various technologies or equipment that would be desirable to acquire)
- * What are their resources? (list according to internal resources where equipment is already existent in the host country and external resources where equipment would have to be acquired for import overtly or covertly)
- * Is the equipment or technology controlled for export?
- * If not, should it be? (Is the equipment or technology convertible or alterable to cross technologies that could be against the interests of the United States on a security or strategic basis, overtly or covertly.

Key elements of any category may be utilized for analysis and evaluation, evaluation criteria can be constructed to highlight abnormal circumstances or material movements outside of known and established operational and supply perimeters. the information developed establishes documented beginning points for initiating investigations of potential violations and validates any probable cause prerequisites.

DISADVANTAGES:

Establishing this system is by no means a replacement for human input from an investigation and enforcement standpoint. There are areas that would appear to be potential violations that may not be such due to variances in classification of equipment with the United States State Department. An example of this scenario is an opportunity that presented itself some months ago. A Multi page listing of military application equipment was presented by a

repair significant segments of equipment as to replace fought to acquire including dual capability high speed computer determined not to pursue the project.

Unless a control is instituted to focus on specific areas of interest the system would, left to it's own ability to judge agencies have the manpower to handle. Developing criteria for areas the agency, a determination of what criteria would constitute systems and subsystems would identification of components

What guidelines are currently in place to establish criteria for determining a violation, what kind of equipment or technology an ability to effectively establish a point of segregation between a system and a subsystem component that may be subject to controlled export conditions?